

BEAUTY THROUGH
HYGIENE
EMMA E. WALKER, M.D.

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The Mothers' Manual . . .

By Dr. EMELYN L. COOLIDGE.

Edited by ARABELLA KENEALY, L.R.C.P., L.M. (Dublin).

The author of this book holds an important position at the Babies' Hospital, New York. It presents precisely the information which every young mother asks ; it is practical, helpful, modern, and absolutely trustworthy. The advantage of these volumes for women being written by women is admirably shown in "The Mothers' Manual," which is full of small points, important, but often overlooked in books of the same kind written by men.

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BEAUTY THROUGH HYGIENE

By Dr. EMMA E. WALKER.

Edited by ARABELLA KENEALY, L.R.C.P., L.M. (Dublin).

This book has been written with the direct purpose and deliberate intention of helping women to a better understanding of their physical life and endowments. In these busy days, when almost all women, either from the necessity of earning their own living or from choice, have their energy taxed to the utmost, there is a great need for some book which will give information that only a physician can impart. Various forms of nervous exhaustion and depression menace our women-folk to-day; cases too often arise which for want of proper treatment affect the entire life, and it becomes more and more necessary for every woman to have sufficient knowledge of hygiene to know how to act when the time for action comes. This book, at once popular and scientific, minute and delicate, supplies that want, and above all serves as a text-book for the preservation of woman's greatest glory—Beauty.

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Beauty
Through
Hygiene

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BEAUTY
THROUGH HYGIENE

COMMON-SENSE WAYS
TO HEALTH FOR GIRLS

By
Emma E. Walker, M.D.

ILLUSTRATED

Edited by Arabella Kenealy, L.R.C.P.

London
Hutchinson & Co.
Paternoster Row

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P R E F A C E

I AM pleased to endorse the health teachings of this excellent little book. The majority of girls—of women, indeed—are woefully ignorant of many things upon which their health depends. This book will give them valuable knowledge upon a number of essential points.

Dr. Walker has gathered her precepts from many and diverse sources, has modified and systematised them, and has clothed important scientific truths in simple language.

The book must be read, of course, with discretion. It does not aim at setting girls to devote their whole time to deep breathing, games, and exercises, and the consideration of their health, looks, and functions. It is intended to teach the general principles governing these. The general principles

once learned, the practice of health rules becomes an instinctive habit.

With regard to the athletic exercises, which are so well and fully described, let me observe in warning that we should be careful not to allow our muscles to expend too large a share of our nervous force. Each person is able to produce only a certain daily amount of nervous force. This has to be distributed among all our capabilities, and if we allow too much to the muscular system, the brain and the other qualities will be deprived.

Moreover, where the home or professional occupations necessitate much bodily activity, exercises and games must of course be greatly curtailed, or instead of benefiting they will merely still further fatigue. All muscular exertion, games, walking and set exercises, should, to be beneficial, stop short of fatigue, and while still in the stage of exhilaration. Otherwise they do harm by loading the

blood with waste products, and leaving the organs too fagged to get rid of these. Each individual learns by experience her personal capacity for muscular effort. This she should not exceed. By habit and practice she may be able to convert herself into a mere muscular machine, but she can only do this at the expense of health and looks and qualities.

Therefore the admirable games and exercises here described must, in order to derive the greatest benefit from them, be practised with moderation, and should not be pushed to the point of fatigue.

ARABELLA KENEALY, L.R.C.P.

BEAUTY THROUGH HYGIENE

CHAPTER I

DEEP BREATHING

Effects of deep breathing—Vedanta Philosophy—
Effects of sedentary life—Symptoms of sluggish circulation — Walking — Longevity — Week-end holiday—Summer vacation.

IT is always more helpful to build up than to criticise, and in the arrangement of this book the constructive part is placed first. For the most part the later chapters deal with the correction of defects.

Of all constructive features of hygiene, one of the most important is the simple matter of breathing.

Would you like to hear how a pioneer teacher of physical culture gained her

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inspiration for this work? I have heard her story from the lips of a close friend.

A school-mistress in a country village, she belonged to a "consumptive" family. She knew nothing of correct position or of deep breathing. Her back was weak, her lungs were weaker. She met with scorn suggestions from her family that she should sit up straight.

This young woman was under the constant care of a physician, who one day told her her case was hopeless; he would take no more money from her, for he could give her no further help. She could live for only a short time at the best. Other physicians confirmed his opinion.

The verdict irritated and aroused her. She made up her mind not to die.

As she went to and from school every day, she was so weak that she could take but a few steps at a time without holding on to a railing for support. As she crawled along slowly, step by step, it came to her that deep breathing was her only resource. She made desperate efforts to straighten up and to take deep breaths.

In telling her story, she says no one knows

the agony she suffered in making use of those poor, neglected muscles and contracted lungs. But the whole force of her being was roused, and she persevered.

In two weeks there was a remarkable change. She could stand fairly straight, and her breathing was more nearly normal.

That was many years ago. And this woman, who had been given up to death by her physician, is now at the head of a large school for physical culture. She stands as a living example of the curative power of deep breathing.

Breath is indeed life.

You are probably weary of hearing so much about deep breathing. But have you ever faithfully tried it? If you have, you will realise so keenly the wonderful benefits that come from the practice that you will feel, as we always do when we have found a treasure, that you must share it with someone else. You never will so feel until you have tried it faithfully enough to know what a wonderful aid it is to health and strength.

I have often felt at the end of a walk, during which I took deep breaths of fresh

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air into my lungs, that I could not go into the house. The effects of deep breathing upon the general feeling and well-being were so marked that it was as if I had been taking some tonic which I felt that I could not give up.

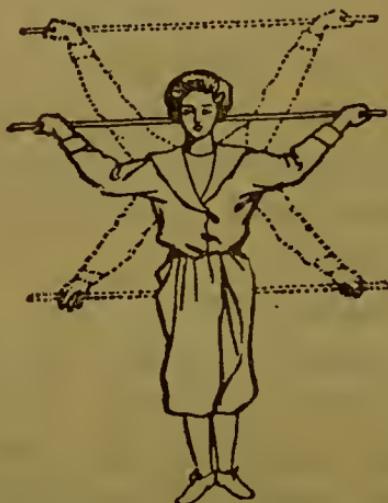


FIG. 1.—Improves respiration.

Deep breathing will start your blood dancing vigorously through your veins. This will make you warm, and you will be astonished to hear some sluggish companion complaining of the cold.

It will take practice to make you a devotee of deep breathing, but when you have become,

so to speak, addicted to the habit, you will never give it up, and you will wonder how you lived before. Deep breathing throws off a vast number of impurities, and it takes in life itself. It adds buoyancy to the spirits, and makes you feel you can overcome mountains of obstacles. Until you try it, you will never know how much it will add to your beauty.

I have been interested for some time in collecting articles on this subject. These have been taken from various sources, professional and popular. It has astonished me, in looking over this collection of years, to find the immense amount of material that has been written on the subject.

One writer would have one object in view, another a different one. The lessons they teach are all so true, yet each one differs from the other, but at the same time all embrace the one essential truth—the great benefit to be derived from deep breathing.

A woman of many interests, a noted writer, and to a certain extent a student of the Vedanta Philosophy, says:

“I combine the occult principle with deep breathing, night and morning, inhaling with

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the pure air all those beautiful qualities of love, health, wisdom, usefulness, and power for good, cheerfulness, and opulence—these seven covering the whole ground of my desires—filling the chest and abdomen fully. In exhaling I get rid of all the opposite qualities, which would do me an injury, such as prejudice, weakness, folly, poverty, etc. I rise on my toes while breathing in, inhaling slowly, desiring with all my concentrated power all good to come to me. I also declare myself for beauty and symmetry in everything physical, mental, and moral. My mind being in this attitude, I must acquire that which I reach out for.

“In the same way I repel all that is unbeautiful in mind, heart, and spirit, as well as in body. In all the different postures which I take, either in the early morning or during the day, I carry out these same impressions, that I am inhaling the best and getting rid of the least desirable qualities.”

An interesting article which recently appeared in one of our medical journals speaks very clearly of the remarkable effects that the breathing of fresh air has upon the organism.

We all know that girls who leads sedentary lives, whatever their occupations may be,



FIG. 2.—Shoulder-raising for developing the lungs.

breathe poorly and shallowly. Respiration is partly suspended, owing to nervous preoccupation.

The result of this is a scanty supply of oxygen to the brain, and this condition gradually leads to neurasthenia. All who lead indoor lives belong to this class.

The girls who are devoted to society are almost invariably poor breathers. They become mentally excitable and physically weak.

An extreme emotion, such as anger or worry, affects the respiration ; it becomes shallow, with consequent brain excitability, and weakened physical endurance. If you are depressed or nervously unbalanced, you may be certain that there is an insufficient and irregular supply of oxygen to the nerve centres.

In cases of extreme nervousness, where there is no organic trouble, the best remedy consists in two periods each day of brisk physical exercise, which will supply so much fresh air that the blood will become properly oxygenated. The energy that this oxygen supplies to the entire body finally brings quietness to the brain and a full return of power to the body. It promotes sleep and calms the nerve centres.

The dark circles under the eyes, with or

without puffiness, with which so many girls are troubled, indicate always a certain degree of passive congestion—that is, sluggishness of the circulation of the vessels of the brain. When these brain vessels are engorged, there can be no clear brain work.

Depression of various functions is sure to follow. For the condition of sluggishness seen in so many young girls, I know of nothing more valuable than the inhalation of pure air.

Walking

A recent writer on the means for the prolongation of life emphasises strongly the value of walking.

He describes it as the most natural form of exercise. It acts not only directly upon the heart, but by the action of the muscles of the legs more blood flows to them, and all the vessels carrying off the waste matter are thus made more active.

The organs and tissues are therefore better nourished.

The entire circulation is greatly increased by the act of walking as well as by the more powerful action of the heart.

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All the abdominal organs share the improved state of circulation.

The muscles themselves receive an extra supply of nutrition, and this exercise is one of the most effective and simple ones for counter-acting the natural tendency to decay. For wasting of the muscles is one of the first signs of old age, and is one of the main causes of the loss of weight in old people.

This writer goes on to say that the amount of walking necessary to maintain health varies widely in different persons and under different circumstances—from half an hour to two or even three hours a day.

Girls who have fair health will gain more benefit from gentle up-hill exercise than from walking down-hill or on level ground.

Bad weather should never prevent walking. The daily walk should take place in all kinds of weather, cold or warm, rainy or sunny; almost everyone can become accustomed to all states of weather. In doing so, the tendency to rheumatism and catarrh from chills is either totally overcome or much diminished.

It is difficult for microbes to find a lodging place in those who are continually breathing

fresh air. One of the first directions given to patients with commencing tuberculosis is to lead outdoor lives. Indeed, they are often advised to sleep in tents. This element of the treatment seems to bring more success in this disease than any other.

I remember being impressed by the simplicity of the treatment recommended for anaemia by one of our greatest masters of medicine: fresh air and sunshine, good food and iron.

From chronic catarrh, too, it is said that patients can "walk away." It has been observed by officers in the army that while on the march coughs and "colds" disappear, only to return after the soldiers take up life again in barracks.

An interesting explanation has been given of the old "miracle" of the King's Touch for "scrofula." Although these patients were wretchedly fed and miserably dressed, they were often obliged to walk several hundred miles, and this is said to account for the cures. To be sure, the king got all the credit!

The great General Moltke, when asked by what means he had maintained his health and activity, replied: "By great moderation

in all things ; by regular outdoor exercise in all weathers, good and bad ; never a whole day at home." He was at that time in his ninetieth year.

I cannot resist speaking a little further along the lines on which this brilliant author writes. He discusses the week-end holiday and the summer holiday, emphasising first the value of taking a day once a week for more prolonged exercise, according to the strength.

If you live in a town it would be especially beneficial to take this day in the country, where you will get purer air and change of scene.

If you are vigorous and too stout, the benefit of this long walk will be increased by taking only a very small quantity of food and fluid for the trip—a few biscuits, an apple or an orange.

On returning home you will generally find, on weighing yourself, that you have lost several pounds. This loss consists almost wholly of water, which has been passed off through the skin, the lungs, and the kidneys. In this way more waste matter is got rid of, and the slightly starved tissues are in

condition to take up new material. You will generally regain within two or three days the weight you have lost.

Martin Luther's motto was "Rast' ich so rost' ich" (If I rest I rust). Even without exercise, life in the open air increases the power of resistance.

One of the great advantages of this tramp in the country is exposure to the open air; it strengthens the nervous system and the skin, the digestive system, and indeed the whole organisation. It makes you cheerful, it increases your resistance to changes of weather, and the tendency to chills and other morbid affections is decreased. Such power of resistance is one of the great factors of longevity.

To get the most out of your walk, see to it that your chest is high, the legs moving freely from the hips in a long, swinging step. The arms should hang easily, moving slightly, but not swinging. With head up, and inhaling long deep breaths, you are in the best possible condition for your tramp. A noted traveller is authority for the statement "that the accomplished pedestrian is the only independent traveller." As to the summer

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holiday, it is even more beneficial than the week-end exercise. For the strong, it is well to take once or twice a year a walking or climbing trip of from three to four weeks, spending from two to three, or sometimes even four hours in walking and climbing every alternate day.

Such a trip absolutely renews one. Every organ of the body is benefited. The power for mental work is increased ; worry disappears. This same writer has observed that the hair of the head and beard, which was commencing to turn grey, resumed more or less the original colour after a climbing trip of this kind.

Probably the greatest factor in the benefit that comes from these trips is the deep inspirations which are necessary in walking and climbing. People who desire long life should make a practice of taking forced respiratory exercises.

Hill climbing is an exercise of endurance. Although it allows opportunity for great exertion, there is not the corresponding degree of fatigue. There is a rhythmical succession of exercise and rest in climbing.

This exercise is splendid for the heart and

the lungs; indeed, all the vital organs are stimulated to extra exertion.

Before you take a mountain trip, it is well to make some preparation for it. You can easily do this by walking up and down an inclined board, which a girl can arrange in the garden without trouble. Or you can walk up and down stairs, or up and down low hills.

It is better to begin gradually, and as you try steeper hills, take fewer and shorter steps. Try first a gentle ascent, then increase until you can climb a steep hill with little trouble. Do not make any sudden change from a slow to a rapid walk. Your training must all be done gradually.

The best time in the day for a mountain climb is the early morning; then you can spend the afternoon quietly. In walking up a hill the feet should be turned out, while in walking down they should be parallel or turned slightly inward. The exercise in climbing a hill is much greater than in the descent, when the exertion is borne chiefly by certain of the knee muscles.

Climbing develops the thighs and calves. It is fine for obesity, for it brings about rapid

changes of material in the body, the fat especially being consumed.

The skin and kidneys are stimulated to greater exertion, so that more waste material is thrown off.

The lungs, too, do harder work and take in more oxygen.

The heart pumps faster, and its muscles are strengthened. The general circulation is quickened and stimulated.

Appropriate clothing should be worn. A short skirt is very necessary. The dress should be loose and of light weight, and the bodice of flannel.

The shoes should be comfortable and easy, with thick soles and broad, low heels. If the climb is to be long and hard, spikes or nails in the heels would be of great assistance. An alpenstock will also be helpful.

Hill climbing should never be undertaken when the health is delicate or the lungs weak, without the special advice of a physician. It may be of the greatest benefit, but it needs expert supervision ; for there is danger in case of a weak heart of its being over-exerted to the point of exhaustion.

Great care should be exercised in regard to

food and drink taken on a climbing expedition. Water should be taken only in moderate quantities from time to time, and it should not be too cold. Be sure that it is pure. It may be made refreshing by the addition of a little lemon juice or vinegar. The food should be nourishing, and it is often convenient to take that which is concentrated in form.

It is not necessary to go to a gymnasium to get the best effects of exercise. Gymnasiums are excellent in their place, but you must spend some unnecessary energy to attend one. In the first place, you are obliged to go there; and there is the trouble of changing your clothing. Again, many girls have no opportunity of attending a gymnasium.

But one thing we can all practise, which will benefit us, I feel certain, fully as much as a regular gymnastic course—that is, the systematic practice of deep breathing. Indeed, it is now claimed by some authorities on the subject that all the good effects of exercise may be obtained by deep breathing alone.

Suggestions for Breathing Exercises

Let me tell you exactly how to practise deep breathing.

Stand as relaxed as possible, arms hanging at side, chest, neck, and head erect. Inhale slowly and deeply through the nose until the abdomen is distended. Continue to inhale until the breath is forced up into the apices of the lungs. You will note that the abdomen is now contracted, and the chest raised far above normal position.

Hold for a few seconds, letting the thought pass through the inside of the body; now slowly exhale through the nose, lowering first the chest, and then contracting the abdomen again. Three minutes of such breathing night and morning will prepare you for the day's work, physically, mentally, and spiritually.

The Hindu has a wonderful breathing exercise for quieting the nerves. It is called alternate breathing.

Place the thumb on the left nostril, closing it; inhale slowly and deeply through the right nostril; with the lungs full, close the right nostril, leaving the left open, and exhale through the left. Second, inhale through the left, the right being closed; exhale through right, with the left closed.

In a few weeks a change will be noticeable. For the best results the breathing

exercises should be practised with the eyes closed.

There is a very simple device which aids greatly in expanding the unused cells of the lungs. Inhale deeply through the nose, then expel the breath, slowly hissing it through the teeth. In this way the lips form a tiny aperture.

The same effect can be obtained by holding a child's whistle in the lips, or an empty reel, allowing the breath to pass out through the opening. The breath should pass out evenly, and necessarily will come slowly.

The object of this method of expelling the breath is to expand the little-used lung cells. The breath passes out so slowly that the volume of air which has been inhaled is virtually dammed back in the lungs, thus distending every tiny air cell.

Do not be weary of the subject of deep breathing, but give it a fair trial. Begin your practice on your next walk. Take a slow, steady breath till the chest is quite full. Do not strain yourself in any way, nor try to fill the lungs to their utmost capacity. Simply take a good full breath. You will help yourself very much if you hold your neck against

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the back of your collar. Your shoulders will take care of themselves.

Now exhale the breath slowly and quietly. When it is all out by this natural method, force out a little more, but do not carry this to the extreme. You will find that you will breathe more deeply at the next inhalation after this forced expiration. This is worth remembering.

No amount of forced inspiration will give you the power of taking in air like a forced expiration. Do not, however, allow your return inspiration to be taken quickly.

Take ten of these breaths, then breathe naturally for three or four minutes; then repeat the ten breaths. If you feel any dizziness from this breathing, you will have probably taken it too vigorously.

The next time you are in the open air, breathe in this manner again. In a day or two increase the number taken by five. The total number of breaths for each day will thus increase rapidly.

You will also find that by stopping every now and then while in the house, and giving several minutes to deep breathing (being sure that the air is quite pure), you will be very

much refreshed and more ready to resume your work, for your mind will be clearer.

After two weeks of this faithful practice you will be rewarded by better chest muscles ; your bust will be firmer and larger, and your whole body will be invigorated.

Deep breathing improves the brain circulation, and so affects the mind. It will frequently relieve a headache. It will fill out the flat chest. It sometimes decreases the size of the abdomen. It is an excellent factor in the cure of constipation or "biliaryness." For those who have weak lungs there is no one remedy of greater value than deep breathing.

You can complete your work in deep breathing by exercising on your back. This is most conveniently taken on getting up in the morning and on going to bed at night. Clothing then forms no hindrance.

Lie flat on your back on a blanket placed upon the floor. Inhale and exhale vigorously but slowly, ten times. Then rest for half a minute.

Now as you inhale, raise the arms along the floor until they are extended straight above the head. Next, bring them back

straight to the sides, expelling the breath at this time.

Rest a minute more, and then repeat the exercise ten times, raising the arms up into the air, dropping them on the floor above the head, as in the first position of extension. Inhale slowly with the movement. Exhale as you bring the arms back to resting position. Note the effect of this exercise on the chest.

A short period of practice in deep breathing will so expand the muscles over the diaphragm that you will never again allow yourself to sit or stand in any but an erect position. You will *hunger* for the effects of oxygen.

Deep breathing does more than any other form of exercise for circulation, for respiration, and for digestion.

Another useful movement is swinging the arms round the shoulder joint.

Of course, if there is any reason why the erect position is not convenient, the respiratory movements can be made by themselves in the horizontal or sitting position.

If you sit a great deal, and lead a sedentary life, thus not having the opportunity for the ordinary methods of exercise, they will be especially valuable to you. An excellent

time for practising them is just after your morning bath, when you have slipped on your flannels.

Remember that I am now talking to healthy girls. If there is any organic trouble, in this matter, as in all others, you should first seek the advice of a physician.

CHAPTER II

EXERCISE FOR HEALTHY GIRLS

Morning routine, breathing, bath, exercises—Exercises for two girls together.

WHEN you wake, first get rid of all the residue of poisonous gases left in the unused corners of the lungs during the night. Of course, the air in your room will be pure, because it will have been well ventilated all night long. But the lungs need their bath at the beginning of the day.

Lie flat on your back, legs straight, feet uncrossed and arms relaxed. Take slow, full breaths for three minutes.

Follow this by a thorough kneading of the abdomen, in order to stimulate the circulation of the intestines.

Now you are ready for your morning bath. After it, polish your skin with a Turkish towel as the shoebblack polishes his shoe.

Slip on a kimona and take your morning run. This doesn't mean that you must shake the house or run round the room, for you can run in one spot.

Spring lightly from the ball of the right foot to the ball of the left, throwing the feet back as in ordinary running. Accelerate the speed of this alternate motion. Begin with twenty-five steps, increasing each day until you reach a hundred without fatigue.

After your run, dress loosely and take your second lung bath. Use common sense, and do not get chilled. Do not allow yourself to feel hurried in this part of your exercise, and breakfast will taste all the better for it.

During the day practise some good exercises to keep every part of the body in condition. Try to make part of some hour convenient each day ; persevere and do not give them up, unless fatigued or unwell.

There is a wide choice in the exercises you may take, but a few suggestions may be helpful.

Take good standing position, and then a position exercise ; arms overhead, stretch upward in a long, elastic movement, then stretch arms out at the sides and down, at

the same time reaching up and back strongly with the crown of the head. The chest will come up and the shoulders go down to proper position if this is done correctly.



FIG. 3.—Exercise for a graceful carriage.

Follow by a poising exercise for a graceful carriage. A good one is to raise and lower the weight slowly and rhythmically on the toes ; this will develop the calf of the leg, as well as the muscles of the back which keep the trunk

and head erect. It will also make the ankle flexible, bring the body into poise, and quiet the nerves. Practise this with the eyes fixed on some point straight ahead ; balance on one foot, and then on the other.

Now strengthen the spine and increase circulation by the following: Stretch the arms high overhead, bend gently forward and backward, breathing slowly through the nose.

Lengthen your waist by stretching the arms overhead, then bending to the floor, keeping the knees straight. The officers of the Austrian army, who are famous for their tapering waists, are said to do this exercise faithfully, repeating it many times each morning.

Increase the number of times gradually from day to day. If you cannot touch the floor with the knees straight, precede the exercise by this one :

Sit on the floor, legs outstretched, spine and head erect, arms straight at the sides, resting hands on the floor, fingers pointing backward. Then without moving the body, lift first one foot, and then the other, several inches from the floor in alternate motion. This is a

splendid exercise for keeping the spine and shoulders straight.

Now it is time to relax. Lie flat on the floor, taking the position which you assumed on the bed, legs and arms outstretched. Inhale deeply and slowly, and as the breath



FIG. 4.—Exercise for hip-joints.

is expelled, let every muscle and nerve relax to its utmost, until you feel every part heavy upon the floor.

Repeat this breathing exercise three times, then test the limbs, one by one, by raising each heavily from the floor, letting it drop

down again. In the same way flop about until you feel thoroughly relaxed in every part.

Now spring to your feet, and take the next exercise, one to keep your body supple and graceful.

Stand on one foot, and raise the other knee to the chest, holding it there with hands clasped about it. Keep the back straight; stand in this position as long as possible. Then practise the exercise with the other knee.

This might be followed by any one of several kicking movements. Try this one: Kick one foot as high as you can, and then the other, pretending that you are aiming at a ball with your toe.

Here is an exercise for agility in high kicking: Stand in the doorway, and, resting a hand on each jamb of the door, swing the leg forward and backward as far as it will go. Practise this until tired. In resting, swing the arms rapidly, first alternately, and then together, both forward and backward, keeping the chest firm and well to the front.

Before finishing, practise some torso movements. The theory of resistance in exercise

is now used largely in modern methods. To illustrate, try the following torso exercise :

Stretch the arms forward on a level with the shoulder, palms facing each other. Standing firmly on the feet, first twist the body by turning hips, shoulders, and head to the right as far as possible ; move the arms to the right at the same time, keeping the right arm straight, and flexing the left at elbow toward the last ; now, holding hips and head in this position at the extreme right, contract the arm muscles and move arms and shoulders to the left as far as possible. Next, twist the arms and shoulders to the right, at the same time twisting hips and head to the left. Repeat five times.

A simple head and neck exercise is a fitting one with which to close your morning practice. Rotate the head slowly, keeping the face forward, reversing the direction with each rotation.

It would be formidable to think of taking all these exercises in one day. They have not been given for that purpose, but merely to offer you a variety which will bring into play every part of the body.

From these you may choose a few which

experience teaches you are most beneficial in your particular case. Any good exercise done with care and moderation is sure to bring you rich results.

Exercises for two Girls together

If you can induce a friend to take up the daily practice of physical exercise with you, map out a little series of resisting exercises, one girl working against the other. Try a few of the following, and see how amusing it is.

With your friend sitting on the floor, legs curled under her, grasp her hands, which are stretched up above the head, elbows straight. Try to keep her arms in this position, while she resists, trying to pull yours down to her shoulder level. When you have gradually allowed your hands to be drawn down to this point, reverse the resistance; try to pull her arms up, while she resists, keeping the hands only shoulder-high.

Or lie flat upon a long table, arms extended over head, elbows straight, the hands grasping a short stick. Your friend, standing behind your head, will grasp the same stick, near the ends, and while you resist her action, she will

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bring the stick high overhead, and down till it rests across your thighs. Now, you in turn will bring the stick again to the first position above the head, while she resists the movement.

Sit upon a stool, and with your hands on your shoulders, and elbows shoulder-high, move as far forward as possible, keeping the back straight, moving only at the hips. The other girl will grasp your elbows firmly, and as you try to return to the erect position, will resist to some extent by pressing forward on your elbows. Keep the arms rigid in this exercise.

Your friend will now take the sitting position, with hands clasped at the back of the neck, elbows thrown back. As she bends forward as far as possible, place your hands across her shoulder blades, with the fingers of each hand touching. As she tries to resume the erect position, resist with a strong pressure on the shoulder blades.

Again, in relatively the same positions, but with her hands resting upon her thighs, firmly grasp her shoulders, and as she tries to come to erect position, twist the torso by turning the shoulders strongly in one direction, while

she attempts to turn in the opposite direction. Practise first to the right, and then to the left.

With your hands on your thighs, push the shoulders up, then back and down in a circling motion. The other girl will place her hands on the tops of your shoulders, and press down as you push up, and forward as you press back, both of you relaxing as the shoulders come to normal position.

Resist each other standing. Turn right shoulders toward each other, and with feet well braced, grasp right hands, one pulling, and the other pushing. Repeat with the left hands.

Another taken in standing position is to cross the arms in front, and grasping with both hands, to resist in opposite directions.

Of course, the more evenly matched you are in strength, the better will be the exercise. Learn the form of the exercise first, and make the pressure even and light, increasing it as you grow accustomed to working together. You will get more amusement out of this class of exercises than from any set which takes but one girl alone.

CHAPTER III

SPORTS

Golf—Rowing—Canoeing—Lawn tennis—Swimming—Side saddle versus man's saddle—The punching bag—Bowling—Skating—Hockey—Fencing—Basket-ball—Gardening.

Why Golf is good for Girls

WHEN you play golf, how will you begin? Will you ride or drive to the links, or will you walk? How many holes are you going to play, and what do you mean to do after the game? Naturally, all these details will depend upon the girl, and upon her condition.

If you are playing the first game of the season, you cannot do what you will be able to accomplish at your last game in October. If the links are far, do not walk there. The average number of holes, eighteen, may prove too exhausting for many; it is far better to play moderately than to overdo. Indeed,

nine holes make a very fair demand upon the strength. If you feel tired after the game, you would do better to drive home than to walk.

The game of golf is a marvellous test of nerve and temper. There is no other so likely to bring out characteristics you never knew your best friend to possess. You may find yourself exhibiting traits that you were not well acquainted with before you went on to the links. You must hold your muscles, nerves, and brain under control; but patience, courage, and self-mastery will bring their reward.

Golf is sometimes better than medicine, and will refresh the tired body and fagged mind.

The physical exercise is invaluable—especially the swing of the body about the hips. The movements of the arms and neck are good developers.

Every sluggish part of the body should be stirred up by a game of golf. One should return from the links with a keen appetite, with the whole being in a glow from perfect circulation, and with every faculty at its best. I know a girl who is free from all her

accustomed ailments during the long summer in the country. She believes this is due to the nine holes of golf which she plays faithfully twice a week.

It must be remembered, however, that much golf, like all other athletic exercises, injures the looks, making haggard faces and lean figures. For overtaxed muscles waste.

Why Rowing and Canoeing are good for Girls

The chief test of the value of a general exercise is the number of muscles it brings into play. Rowing meets this test perhaps better than any other sport. There is hardly a muscle in the body which does not play its part.

The abdominal muscles are called upon in the forward swing, while in the backward pull the long back muscles are brought into use. The quick "fisherman's stroke" will develop the biceps of your arms, while your long, steady pull, with feet well braced, makes your thighs firm.

Vary your stroke, and learn to pull against the elements, wind and tide, in all kinds of weather.

Rowing gives a certain vigorous grace which is inimitable. The forward and backward swing form a pendulum-like movement which centres in the hips. And grace in walking, you know, is absolutely dependent upon a free play of the hips.

The breath comes and goes in harmony with the motion. Note how the breath is



FIG. 5.—Rowing improves the carriage.

held at the height of the exercise, as you are giving the pull: how you breathe in as you lean forward for the stretch; how you breathe out after the pull.

Although so many muscles are brought into play, the exertion is well distributed, and so causes no great local fatigue.

Rowing improves the carriage, making it

graceful and erect. It arches the chest and makes it strong. It quickens the circulation and increases the activity of the skin. It is fine for deep breathing, and so purifies the blood.

For the girl who is too fat it is excellent, for this extra tissue will be quickly used up.

As in other exercises, rowing should be properly done, or harm may result. If you bend your head over, crook your back, and contract your chest, your arms will do all the work, and the other muscles will gain no benefit. It is a great mistake to think that the arms should bear the brunt of this exercise.

A good rower always sits well. If you can see the attitude of the rower before she begins her work, you can almost invariably foretell the kind of stroke that will follow. The back should be held rigid, and the swing should come from the hips.

The art of pulling evenly and equally with both hands is the result of long practice. The shoulders should be braced when the oar grasps the water.

When you are rowing, you are breathing air that is absolutely free from dust, and the farther you go from the bank, the purer and

more invigorating the air. You are giving your lungs a refreshing bath with every breath you draw.

You should wear flannels when you row.

Rowing should not be begun too young on account of the strain on the joints, and persons with weak lungs and heart should be very cautious about indulging in this exercise.

In the healthy girl, rowing will develop presence of mind, endurance, alertness, grace, and pluck.

Canoeing

No one should canoe without first learning how to swim. The canoe, though unstable in the hands of a beginner, is really a life-boat, for when it capsizes, it will float and keep its crew above water.

The position of the paddler, and the kind of paddle used, influence to a certain extent the muscles which take part.

You may use either the double-bladed paddle, or that with one blade. With the former you get a double-sided motion, while with the latter you confine your exertions to one side of the boat at a time.

Here again, with the double-bladed paddle,

comes in the splendid side movement, or twisting of the trunk. This is most beneficial in its results, as it effectively stimulates the internal organs as well as exercising various muscles.

Paddling develops the upper part of the back, the muscles of the arms and wrists, while even the legs share in the work in certain positions.

The postures you may take are various. You may sit flat in the canoe, which makes it quite stable. Or you may kneel on one knee, or on both; or, if you wish to imitate the Indian athlete, you may stand. This last attitude is sometimes assumed in racing, but is always risky for a girl. Sitting is the most comfortable position, and is the common method when using the double-bladed paddle. But whatsoever attitude you assume, the back must remain erect.

Little teaching is necessary for the motion of paddling, as it comes naturally. The muscles of the abdomen are thoroughly exercised. Indeed, they become very stiff if the paddling is at all violent. The cramp in the wrist which you may feel at first will pass off after a few days' practice, and there

is no better exercise for the wrists than paddling.

The canoe possesses several advantages over the rowing-boat. It is delightfully convenient for exploring country where the waters are not deep, as it can be used in the shallowest stream.



FIG. 6.—Motion for exercising the abdominal muscles.

An expert can paddle almost noiselessly, so that, for hunting, it is most valuable. And did you ever watch the birds from a canoe? You can slip upon them unawares, and you are always facing the point toward which you are moving.

Paddling has most of the advantages of rowing. The deliciously pure air which you enjoy in both rowing and paddling is one of the finest benefits of water pastimes.

Lawn Tennis

Probably most girls go through the same stages in tennis, and in the end make only fairly good players. This is due in some degree to deficient strength and to lack of physical training. But tennis is such an enjoyable game that most of us persevere in playing it, whether we become expert or not. And after all, we play for enjoyment, not for our livelihood! Nor does it make any difference how many new games appear; they cannot usurp the place of tennis.

Tennis is a splendid exercise for both mind and body. To become a good tennis player, one must begin correctly at the outset. The foundation must be properly laid, or even practice will not make perfect.

The successful stroke does not consist in the force that is applied to a ball so much as in the manner in which that force is applied. The ball must be hit at the right time, and in the right way. The stroke

must be timed correctly, and this depends entirely upon the eye.

Unfortunately, this fine observation cannot be taught. Persistence will bring progressive improvement, if you begin with a good style at first.

Begin by driving a ball against a wall. All correct strokes are made by free and easy movements, which are bound to be graceful and natural; so do not aim at grace or effect. Never hold your wrist or elbow stiff.

The long, upward stretches that come into the playing of tennis are benefit enough, even if this were all the good it brought. However, every muscle of the body has its part to play in a vigorous game of tennis. The free swing of legs and arms brings grace and agility. The shoulder joints and the waist are made supple, and the sinews of the wrist are strengthened.

Tennis offers splendid opportunity for deep breathing. It develops the muscles of the arms and legs, as well as those of the chest.

The tennis costume should be convenient. The dress should be of light weight, and loose, while the weight of the clothing should hang

from the shoulders. The sleeves should be loose and the collar low.

Tether Tennis

Tether tennis is an agreeable change from the old-fashioned court tennis. It can be set up in the smallest garden, or at the seashore. Someone was ingenious enough to invent the tethering of the ball, so that you never have to run after it.

A round of tether tennis is almost as good as a Russian bath. There are few games that are its equal in this respect. The strokes have to be given in such rapid succession that the player soon becomes very much over-heated.

This game is more appropriate for the cooler days than court tennis, especially when doubles are played. It requires great quickness of eye and agility; otherwise there is a chance of being hit by the ball.

You must be certain to wear your sweater when you play this game, because of the danger of getting chilled after perspiring.

There are various advantages in this sport over old-fashioned tennis. Very little space is necessary; an area of twenty feet square

is sufficient; the balls do not have to be chased, and you do not have to waste precious minutes in looking for a lost ball. Neither does the umpire have the nice decisions to make that often come up in the older game.



FIG. 7.—A round of tether tennis.

The expense of the game is far less than that of court tennis. There are no nets nor back stops to be provided. It is interesting, invigorating, and rapid, and can be played by

girls as well as by boys. It is, on account of these various advantages, deservedly popular.

Swimming

When swimming is indulged in under the right conditions, its benefits are many. Although nearly all the muscles are brought into play, it is the large ones especially on which the work falls. The back muscles serve to keep the head above water, so it naturally follows that swimming is excellent training for a graceful and correct carriage.

It is good for straightening round shoulders; the muscles of both arms and legs come in for their share of work, but especially for the chest is swimming beneficial. These muscles are developed, and the chest is broadened out, and put on the stretch by the extension of the spinal column.

Here again we have an exercise in which we are bound to breathe deeply, for more air than usual is taken into the lungs, which are expanded to their extreme limit. It follows that the circulation is stimulated, and the whole body invigorated and rejuvenated. All the muscles used in breathing are put to the test, and I know of no other exercise

that teaches such perfect control of breathing.

Extra resistance must be met, for the pressure of the water on the chest is greater than the pressure of air.

As in rowing, breathing should correspond to the movements in swimming. When the legs are extended the breath is expelled; when the legs are drawn in, the air is breathed into the lungs. Never hurry when you swim. Believe that the water will hold you up, and you will never feel panic-stricken.

If you do hurry, you will expend much effort to little advantage, and you will not reach your goal quicker than if you follow a quiet, even stroke.

One can learn to swim on the back as well as on the chest. Again, one can swim on either side. Swimming on the back is not so tiresome as chest swimming, neither is it so rapid. When one is swimming on the side the legs are exercised most, and this is the way to swim for speed. "Dog paddling" is an easy, rapid stroke much affected by boys.

When you are tired and wish to rest, just turn on your back and float. This is the simplest lesson you can learn in the water.

It is well to observe several precautions:

Never swim directly before or after eating. Allow an hour and a half before and after meals.

Until you become an expert swimmer, always swim toward the shore—never away from it.

A short stay in the water is much better than a long one.

Never try to swim when you are tired.

Never stay in the water till you feel cold.

If after your bath you do not get up a warm reaction without exercise, you have been too long in the water.

Side Saddle versus Man's Saddle

There has been vigorous discussion in recent years as to the best method of horseback riding for girls. Both the side saddle and the man's saddle have their loyal advocates. Much has been written in support of each method, but after considering very carefully the arguments on both sides, the weight of authority from various standpoints favours the side saddle.

There is no question but that from the æsthetic point of view the side saddle is

preferable. As to the costume, however, the divided skirt, when seen from the side, can scarcely be told from the ordinary riding habit.

Most girls prefer to ride a horse already trained, but even if a girl be devoted to this exercise for the pure love of the sport, she may ride in the side saddle and still keep perfect control of a frisky horse.

From the medical standpoint, there are strong arguments against the use of the man's saddle by girls. It is claimed with good reason that considerable injury may be caused by this method of riding.

The ideal method of horseback riding for girls seems to be the use of the side saddle, which is frequently changed from one side to the other. For continuous riding on the same side has its serious disadvantages. It often causes irregular development of the thigh muscles, especially in girls who begin to ride when they are children.

The open air element is invaluable in this sport. The lungs and heart are forced to do more work in a shorter time, and so deep breathing adds its benefits. The muscles of the thighs are well exercised by brisk horseback riding. The calves will be developed

if the foot is pushed only a little way into the stirrup, and the body weight thrown thus on the soles and toes.

Horseback riding is a most fascinating and health-giving sport. It is extremely exhilarating, for by it the whole body is stirred up from sluggishness.

The ride is a constant pleasure—a great factor in bringing about favourable results in any exercise.

The Punching Bag

The problem of indoor exercise for girls is solved by the use of the punching bag, otherwise known as the striking bag. By the use of this apparatus every muscle in the body is brought into play. The thin girl grows plump from development of her muscles; the stout girl grows thin because the extra fats are burned up, and waste matter is quickly cast off.

The form is greatly improved by the use of one of these bags. Lightness of foot, a springy step, and a graceful poise are developed even to a greater degree than by means of dancing lessons. Weak trunk muscles are strengthened, so that the

amateur athlete holds herself straight with ease and comfort. The size of the waist and abdomen are reduced.

I know of one girl whose neck was so thin that she could not wear a low-necked gown, but after six months of this exercise her neck muscles have developed charmingly. Another girl whose lungs were very delicate now has a splendid chest capacity, as well as hard, firm muscles.

Although this exercise is generally indulged in indoors, you can so arrange as to have plenty of fresh, outdoor air in the room, being careful not to get a chill when you have finished exercising. The mental effect is exhilarating, for the girl must be constantly on the alert, and her mind must have complete control of her body.

The object of all exercise, as girls well know, is to make the blood circulate freely, in order to give new life to all the tissues, and to carry off quickly all the old waste material. Bag-punching will accomplish this result as well as any other sport I know.

This exercise will bring about a velvety complexion, or at least the complexion will come as near the ideal by the use of the

punching bag, if there is fresh air in your room, as it can by any other means.

Many cases of dyspepsia and "the blues" have been vanquished by the punching bag.

You can see at once its various advantages. You need no opponent, and can play at any time by yourself. You depend only upon yourself for a game. You can play as fast as you choose.

The motions come to you naturally; you need no instructor. You will not injure yourself in any way. When you begin to get tired, stop.

The bag should hang about at a level with the shoulders; then you must strike straight out at that height. This stroke calls into play more muscles than any other. If you hit the bag a little above the centre, it will not rebound, and your nose will thus be spared many a bruise.

It is well to have a light flannel gymnasium suit, and slip this on when you practise. You can choose your own kind of bag, as there are varieties. You will need also a pair of light boxing gloves.

What are known in America as

Strolling Clubs for Girls

are excellent. This is the plan: A party of girls, in number from four to ten, agree upon some place, generally the home of a friend, as the objective point for a stroll, and in the early afternoon walk several miles out into the country. A light luncheon, prepared by the hostess or carried by the girls, is served, and the party walks back again to the city in time for dinner.

In some cases, especially if the distance be great, the walk is limited to going out, and the return made by train. Like everything else, the capacity for walking increases with practice, but the stroll should be leisurely, in order to enjoy to the full the air and the society.

For girls engaged during the day, who cannot take the afternoon walk, there is another plan which has been tried with equal success. They take the walk after dinner in the cool of the evening. A light supper is served at the end of the jaunt, and the party returns home by train.

Walking, under proper conditions, is one of the most valuable and attractive exercises,

but the latter quality certainly often depends upon the associations, for nothing is more stupid than the old-fashioned "constitutional."

Bowling

Bowling is another vigorous game, and you must be careful, in indulging in any exercise of this kind, not to strain or overtire yourself. Be sure that you are in good physical condition before undertaking any arduous sport. Bowling brings in the twisting of the trunk, which, when properly performed, is beneficial to the functions of the internal organs.

Skating

Among the winter sports are skating, coasting, and tobogganning. The first two give practice in the delicate balancing of the body. Skating especially will cultivate grace. After skating is once learned, it is supposed never to be forgotten. All these exercises are especially advantageous in that they are taken in the open air when it is crisp and fresh. They all involve vigorous exercise.

We hardly realise in this country what a delight these pastimes are. It is almost like going to another world to read the fascinating

descriptions of these sports among the people of northern climes. In many such countries the inhabitants virtually live on their skates when out of doors.

Hare and Hounds

If a number of girls in your set are athletic in their tastes, they will find a good deal of fun in a Hare and Hounds Club, when the weather grows cool.

Have five or six on a side, and choose a leader for the "hares." Practise once a week, and you will soon be able to cover fair stretches of country in your run.

Hockey

Hockey is called the offspring of "Our Lady of the Snows." But this game is no longer confined to Canada. It is now played all over the world. At first, after you have played for a short time, you will be stiff and sore—a proof that every muscle has received its due exercise. Hockey is essentially a rapid game. It calls into play many and varied motions of the body, as now you skate forward, now backward, now sidewise. The lungs are expanded ; the leg and back muscles

are developed, and the trunk is turned and twisted so that the muscles of the neck, the sides, and other muscles of the torso are brought into play.

Hockey is an exciting and exhausting game, however, and girls should be careful not to go beyond their strength in playing it. An hour once a week is enough for the majority of girls. Like all very violent exercises, it makes its devotees stalwart and clumsy.

Fencing

Those of you who have the opportunity to study it will hardly find a better all-round exercise than fencing. For this sport some equipment is necessary ; a girl should have a perfectly sound body to begin with, and be very sure that none of her organs are weak. Foils, masks, and a plastron are used, and an instructor is absolutely essential. Learn to fence with both hands, so that the forearm, calf, and thigh are developed symmetrically on both sides. The results are wonderful. Three months of fencing practice will give you a lighter step, grace of movement, and a more agile form. It trains the eye, the hand,

and the mind. Indeed, I know of no better mental gymnastics than a bout with the foils. The exercise is vigorous, and causes profuse perspiration, and if you are a little heavier in weight than you like to be, swathe the hips and abdomen in flannel before your practice hour, and note how quickly they are reduced. Take a thirty - minute lesson only. Lie down for thirty minutes after each practice. Fencing is a fine art as well as an exercise, and one of the most fascinating of sports.

Hand Ball

Hand ball is a fine game for all-round physical development. Every muscle of the body is exercised. It cultivates quickness and precision of eye. The running and struggling it involves are of great benefit to breathing. It is a most healthful and exhilarating exercise.

One of its advantages is that it can be played alone. It is the national pastime of Ireland.

Basket Ball

Although many girls are devoted to the game of basket ball, it seems to me that it

ranks with football rather than with girls' sports. In playing this game, one is apt to become so excited that she forgets all care for herself or for others. I do not feel that the dangers of the game are compensated by any advantage that may come from it.

Any girl who has a weak heart should carefully avoid all vigorous games, unless she has the permission of her physician to indulge in them.

Gardening

So many girls are desirous of getting rid of superfluous flesh that I wonder more of them do not try gardening. The same motions are involved in this pastime that come into many household duties, especially bed-making. The girl who loves her garden is continually stooping and rising again, motions most advantageous for one who desires to lose weight.

Coming close to Mother Earth is a blessing in itself. She loves her children, and the closer they come to her the more freely she offers them beauty and health.

Gardening is a fascinating pursuit, as you will find if you once take it up. Begin in a small

way at first, but do it well, and it will not be long before your boundaries will spread. The joy of seeing the first bud and flower on your own plant that you have nourished is an exquisite pleasure. Not only does a beneficent physical effect come from this close contact with Nature, but I do not know of anything that will give you such a restful peace of mind as gardening.

CHAPTER IV

POISE

The perfect form measurements — Correct standing position — Defects of carriage — Sitting position — School-room faults — Proper posture in rest and sleep.

A BEAUTIFUL form has more power to charm than a beautiful face. But though Nature may have endowed you with a perfectly formed body, this will count for little unless you have elegance of poise and grace of carriage.

But how can we tell how nearly our bodies approach perfection in their proportions? Artists have accepted the Greek measurements as being those of the ideal figure.

According to this model a woman's height, when fully attained, should be five feet five inches. Her waist should measure twenty-seven inches; the bust under the arms

thirty-four inches, over the arms forty-three inches; the circumference of the upper arms should be thirteen inches; the wrist six inches; the thigh should measure twenty-five inches; the calf of the leg fourteen inches and a half; and the ankle eight inches.

The weight of this ideal figure should be nearly ten stone.

An old book says of the perfect woman that the height should be ten times the length of the face—from the root of the hair to the tip of the chin; or seven times the length of the head—from the top of the head to the tip of the chin.

The face is divided into three parts; the first part lies between the root of the hair and the upper line of the eyebrows; the second part from the eyebrows to the bottom of the nose; the third from the nose to the tip of the chin.

From the end of the middle finger to the wrist is the length of the face; from the wrist to the elbow once and a half the length of the face; from the elbow to the shoulder joint two faces.

The circumference of the waist should measure the length of three heads; the

length of each eye should measure the distance between the two eyes.

Other measurements give the length of the body as six times the length of the foot; the



FIG. 8.—The essentials of a good position.

arms three times the length of the head; the legs four times this length. The width of the shoulders should be equal to the length of two heads.

Control of the body, as a whole, is the ultimate aim of all physical training. Without this there is no true culture of the body. Let us then study the subject of poise in its different aspects.

First, in order to stand well, a centre must be established, and the natural centre is the chest. Make the chest active by drawing it up to a high position, and all other parts of the body will fall naturally into their proper relation to it.

Take this position of the chest, and notice how the abdomen is drawn in. This is an essential feature of good position, for the bane of many girls is a prominent abdomen. This ugly position is absolutely unnecessary if only a little care be taken to draw it into proper line. This done, the weight of the body will be thrown forward on to the balls of the feet ; a straight line may then be drawn through the shoulders, hips, and ankles.

Be careful that the hips are not thrown too far back to over-arch the small of the back, for this is a weak position ; but if the chest is made the true centre, this will not occur.

Avoid other faults of carriage, such as extreme swinging of the arms when walking

or holding the head on one side; be careful about the position of the feet at all times. Do not allow one shoulder and hip to be raised by standing on one foot.

A simple but effective way of testing for correct carriage is to pass the hand over the back, while the person examined stands in a natural attitude. If the carriage is correct, the ends of the shoulder blades cannot be felt, but if they are felt, you may know that the carriage is not correct.

You will be amazed to find how very few people can lay claim to a perfect carriage after this test, and the one who can is always noted for exceptional power, either mental or physical, but generally both.

When you think that incorrect carriage means compression of the trunk, and that the trunk is really a box containing the vital organs—the lungs, the heart, the stomach, the liver, and the bowels—any distortion of this part of the body means a direct effect upon the vital functions.

In a sitting position but one rule is necessary: draw the crown of the head up and back, and maintain this high position at all times. Do not allow yourself to lounge in a chair. If

you are too fatigued to sit straight, lie down until you are rested, but never allow yourself to flop, and above all, never sit on one foot.

The school-room is apt to be the starting-point for bad position in sitting. It is such a temptation to lean the head on the hand, so depressing one shoulder—to bend the head



FIG. 9.—When you read do not bend over.

forward, and to stoop at the shoulders and at the waist. Always lean forward from the hips, and not from the waist.

Sit on the whole seat of the chair, and not on the edge. When you read, do not bend the head over to see the print, but raise the book until you can see it with ease.

Girls do not need to indulge in violent athletics to cultivate symmetrical bodies. If you keep wrong postures from fourteen to sixteen hours each day, how can you hope to overcome their bad effects by ten, twenty, or even thirty minutes' exercise each morning?

The exercise is but a means to an end. It is to train the body into good position ; then see to it that this is maintained throughout the day.

Much of the ill health of girls comes from bad habits in the school-room. Postures are held which cause many asymmetries of form. The stooped attitude cramps the chest, so that little air is taken into the lungs ; it also twists the spine, so that a crooked back is the result, as well as elevated shoulders and prominent hips.

Carrying books or any other weight always on the same arm leads to many distortions. In this way spinal curvature is often caused. If books must be carried, first one arm should be used for the purpose, then the other.

Now just a word about crossing your knees. This is a very bad habit. It throws the body out of plumb and causes pressure

on various large nerves and blood-vessels, so impeding circulation.

After you are seated back in your chair the seat should be about three-fourths as deep as your thigh ; if your chair is too high, have a small foot-stool ; for in the properly adjusted seat the feet rest easily upon the floor.

The chair back should be curved slightly forward at the waist, and backward at the shoulder-blade points.

Train your body to lie properly in rest and sleep. The most scientific position in sleeping is upon the right side, with the right arm behind, so that the lungs are not cramped. Flex the upper leg slightly. Use a firm, low pillow. In lying down for rest only, lie flat upon the back, legs straight, arms relaxed at side, head flat.

CHAPTER V

THE FAT GIRL

Errors in diet—Proper food—Drinking at meals—
Directions for reducing weight—“Anti-fat”
remedies—Care of bowels—Reducing exercises.

THE girl who is too fat is nearly always fond of sweets and dainties. Exercise and diet are the two chief lines along which she must work in order to reduce her superfluous flesh.

Every pound of flesh beyond that which is necessary to make the form symmetrical is an additional weight to carry, a burden to overcome, and a hindrance to normal functions. In other words, it stands ready to destroy both health and beauty.

If you notice this tendency when you are young, and especially if you know that it is hereditary, begin early to keep it down. Look first to your diet. It is not only the things which you eat, but it is often the

amount that you eat which helps to produce this unfortunate condition. I know a girl now whose form is most ungainly, and it is growing more so every day. I believe she hardly ever comes home from a walk without bringing a box or two of chocolates.

It is generally the calm and phlegmatic temperament, the girl who does not worry, who takes life easily, who indulges herself in frequent rests, as well as in all things good to eat, who is troubled with an excess of fat.

Such foods as cakes and pastries, ices, creams, and sweets, taken especially between meals, besides wines and other alcoholic beverages, are very productive of superfluous flesh. It is much easier to prevent this condition than it is to cure it.

In general, sweets and starches, besides milk, creams, and desserts, should be, to a great extent, avoided. There should be no between-meal indulgences. Breakfast cereals, with cream and sugar, must be abstained from. Many girls who are inclined to be over-plump believe that their appetites are small. It is curious to note how often fleshy people will tell you this fact.

The basis of the diet for obesity consists of lean meat and dry food ; but no strict diet should be undertaken without the personal observation and direction of a physician, for there are often other indications which would not allow such a regimen to be followed with benefit.

Fats should not be entirely cut off, because they are needed to aid digestion.

It must be remembered that no cut-and-dried rules can be given for all cases of obesity. The individual must be considered in this regard, just as she is in every other branch of hygiene. You can soon tell by watching yourself carefully what special foods add to your weight.

As far as possible, according to many authorities, you should abstain from taking much liquid, especially with meals. This holds true only in case you are in otherwise good condition, for such diseases as gout and rheumatism require an increased quantity of fluid.

One of our leading dietitians gives the following general directions: The girl who wishes to reduce her weight should avoid all kinds of soups, milk, cream, and alcoholic

beverages. The little fluid that is taken should consist of plain or aërated water. As far as possible the food should be taken dry. Very juicy fruits and vegetables, such as water-melons and tomatoes, should not be eaten.

A little butter may be taken, but apart from that, fats should be eschewed. Sugar should be forbidden. Starches should be cut down to as low a limit as possible. You may substitute gluten bread, if you wish, for wheat bread. Salts and the vegetables that grow above-ground — fresh green vegetable — are used.

Various systems have been laid down by different authorities for diet in obesity, but it is most unwise to follow out any one of these without the supervision of a competent physician.

Massage is often attended with good results in obesity.

As to "anti-fat" remedies, they must be avoided. There are many quack nostrums which are popularly supposed to reduce flesh. Such preparations are thoroughly unscientific, and many of them are positively dangerous. The only sensible

treatment for obesity consists in diet and exercise.

To sum up, then, the general directions for the girl who wishes to lose flesh:

Do not sleep more than seven hours out of the twenty-four; learn to move more quickly; get out of bed instantly on waking in the morning, take a brisk bath, first scrubbing yourself with a brush and then rubbing vigorously with a Turkish towel.

Then take your running exercise.

Many authorities advise the drinking of hot water half an hour before meals, upon rising in the morning, and before going to bed at night. This supplies a stimulus to the bowels—a most important point in reducing flesh. The bowels must be kept in perfect condition. They must carry off the waste matter of the system, so that the organs will not become clogged.

Although I do not wish in this little volume to suggest any medicinal treatment, I am a firm believer in the efficacy of a good dose of castor oil at least once a month. It cleanses the intestines and carries off all waste matter. But you may say: "My

bowels move regularly every day — why should I take castor oil?"

I have seen so many cases of this kind which were in crying need of a dose of the oil that I can have little confidence in your good opinion of your bowels. Many a time have I seen cases of headache that had lasted off and on for weeks entirely disappear after this simple dose.

If you dislike to take it pure, take it with lemon juice, or floating on hot coffee ; or you may take it in capsules.

Especially for the fat girl is necessary some daily vigorous exercise which will cause perspiration. Walking, riding, bag punching, tether tennis, fencing—all these are excellent.

A great secret of reducing flesh is "to keep moving." Don't stop too often to rest, but keep active, and you will soon persuade the scales to tip at a more respectable figure than they had been doing of late.

Reducing Exercises

Exercise has two effects upon the system : it increases the process of assimilation ; it accelerates the process of waste.

In other words, if the stout girl exercises vigorously, her excess of fat is oxidised or burned up, and she becomes thinner.

She loses the superfluous fat that was a drawback to her body, while the thin girl, by exercise, puts herself into a condition for becoming better and more easily nourished. She assimilates her food, and consequently becomes plumper, a condition she so greatly desires.

To reduce the *abdomen*:

Lie flat on your back and slowly raise both legs to perpendicular position; then lower them slowly to the floor. This will make your abdomen small and firm. Do not repeat this exercise many times in succession, as too many repetitions might strain the back.

Alternate it with the following, which is also strengthening to the muscles of the abdomen: Lie flat, and keeping the heels on the floor, rise to a sitting position, with the arms crossed over the chest; or, if this is too difficult, begin by tossing the arms forward to give the body an impetus. When it becomes easily performed in both of these arm positions, increase its pull by clasping the hands at the back of the neck, thus

coming to a sitting position. This sitting position should always be erect.

Another is to be taken in standing position. Clasp the hands over the abdomen ; contract the muscles of the abdomen suddenly, taking



FIG. 10.—A good reducing exercise for vigorous girls.

care not to lift the chest appreciably ; let go as suddenly ; repeat six times, and rest by taking three deep breaths.

Another and similar exercise is to clasp hands in the same position ; contract the

muscles of the abdomen and bend at the hips six times, keeping the muscles well contracted throughout the bending. Rest by taking three deep breaths between each exercise.

To reduce the *hips*: Bring the knee up to the chest, remaining as nearly erect as possible. Practise in alternate motion.

Another: Place hands on the hips; shoulders well back. The leg is raised, with knee flexed. Then after a high, quick, side kick, bring the foot back again to the floor. This is to be repeated several times.

Hip circling can be done with good results in the way of decreasing size, if the principle of resistance is employed. Take standing position, hands on hips; rotate the hips, bending the knees and keeping the chest and shoulders immovable. Contract all the muscles used in this exercise and resist.

Sidewise stretch: Holding the body straight, support its weight by resting one hand on the floor with arm extended, the other point of support being the foot corresponding with the supporting hand. The other hand rests easily on the corresponding hip, while the other foot lies against the one on the floor.

In other words, the body extended is

supported by two points, the upper hand on the corresponding hip. In this position the body should be slowly raised and lowered several times; then the position should be reversed. The movement is felt strongly at the under hip. The muscles on the side and back are also exercised. This is quite a severe exercise, and only suited to the very strong.

Light, moderate exercise for a short period will have very little effect in reducing flesh. If you have allowed yourself to become awkward and heavy, it will take very serious attention on your part to reduce this superfluous fat. It is only through continued exercise and profuse perspiration that this can be accomplished.

An actress, famous for her beauty, and now approaching middle life, has solved this important problem by swathing in flannel the over-developed parts, and throughout an hour's exercise, drinking freely of hot water. These are scarcely legitimate aids in reducing flesh.

Choose a few exercises, and practise them faithfully, slowly increasing the number of repetitions, and you will be rewarded by a return of symmetry and elegance of figure.

To make the *waist* small and flexible, try this exercise of body raising. Lie on a table face down. With the feet held, or caught at one end of the table, bend the body at the hips over the opposite end of the table. Now, with feet firmly held, hands at back of the neck, elbows well back and head up, chin in, bring the torso to a horizontal position ; bend downward toward the floor, then backward to horizontal position again ; repeat three times. Do not practise this exercise if you find that it strains the muscles of the back, as serious results may ensue without proper precautions. Always have an attendant when this exercise is taken. Do not take it alone.

The waist will be much smaller when the trunk is uplifted and the internal organs held high in proper position than it is when they are allowed so sag. The wearing of corsets is not the proper way to reduce the waist.

Following a simple exercise will accomplish this hygienically. Take standing position, slightly advancing the right foot ; sway the body well forward, throwing the weight on to the forward foot ; raise the arms upward, hold well back, at the same time inhaling the

breath gently and slowly until, by the time the arms are fully extended upward, the lungs will be fully inflated. Hold this position for a moment, then exhale the breath quietly, allowing the arms to descend to their normal position, at the same time relaxing the muscles.

To reduce the *double chin*: The various neck exercises are a wonderful help in reducing a double chin. Stretch the head first to one side as far as possible, and then to the other. Extend it backward as far as possible, first directly back, and then twisting the head at various angles. All these movements put the flabby muscles of this part on the stretch, and help to tone them up.

In order to reduce a fat, ugly back, practise with a broomstick, using it as a wand. Keep it always behind the back, raise and lower it, jump with it in your hands, twist and turn and swing it, always working with it behind you.

CHAPTER VI

THE THIN GIRL

Directions for increasing weight—Sleep, cheerfulness, care of bowels, diet, massage, baths, relaxation—Development exercises, flat chest, deficient bust, weak waist muscles.

THE girl who is too thin is apt to be nervous, and, like Martha of old, “anxious about many things.” She generally moves quickly, sleeps lightly, works hard from morning till night, often does a great deal of fretting. The reverse of the treatment for the fat girl is advisable for the thin.

She should sleep eight or nine hours every night, go to bed early, get up leisurely in the morning at a comfortable hour; her bath, however, may be as vigorous as she likes, and her running—for this will get her blood into good circulation, and her organs in trim for doing their daily work.

Directions for diet for the thin girl must also be hedged about by various "ifs." The first step in directing the diet is to find out the cause of the extreme leanness. I know of nothing of small dimensions more annoying than to be saluted several times a day by: "How are you now? Are you well? Oh, I am glad, but you are looking so very thin." Or, at the table: "Do take some more of this—it will do you good. You know you look like a greyhound." Or, "Well, I suppose it must be natural for you to be thin, but it is a pity you can't put on a few pounds of flesh."

You may be thin because your diet is improper. You may not masticate your food so thoroughly as you ought. You may be living where you are unable to get properly cooked food. Your digestion or your assimilation may be poor. You probably are overworked and nervous; that is nearly always the condition of the extremely thin girl. Or there may, of course, be a diseased condition of some of the organs, especially those connected with nutrition.

A warm climate is more favourable than a cold one for putting on flesh. No diet will

accomplish this end so longingly desired by the thin girl, if other conditions also are not favourable.

You must not worry. You must take every day's experiences more philosophically. Sleep as much as you can. If possible, an hour's rest between breakfast and luncheon, and again between luncheon and dinner, with a glass of hot milk, is beneficial. Another glass of hot milk on going to bed is soothing, and will make you sleep better. The milk should not be boiled, but should be so hot that it must be taken slowly, sip by sip. Unless you do so, the curds formed in the stomach will be too large to be easily digested. Do not drink tea or coffee.

The thin girl must be as careful of her bowels as the fat girl. They must be kept in a healthy condition in order to properly assimilate food. It may be that you are eating a combination of foods that causes indigestion and flatulence. If so, be careful that you are able to digest the starchy foods which form a part of your fattening diet. Sometimes you will be able to digest one kind of starch, but not another.

If your digestion is weak, it may be a

good plan to eat cereals or vegetables at one meal and meat at another. In this way foods that require different lengths of time for digestion, and which involve to a certain extent different organs of digestion, will not clash with each other.

Oatmeal is better digested without sugar. Thin girls can generally digest starches more easily than sugars.

To give some general directions as to foods suitable for the thin girl: Cereals eaten freely are beneficial; all the sweet and starchy fruits and vegetables, such as potatoes, cooked bananas, beans, and peas; fat meats and butter; syrup, preserved figs, and soups; cream and honey, and simple desserts. Nuts are very nutritious if you are able to digest them. Milk, cream, cocoa, and chocolate are fattening.

Take plenty of time for your meals, and do not eat too great a variety at one time; see that your food is well cooked. Carefully avoid a large amount of green vegetables, acids, pickles, and condiments.

I have found an excellent diet in general for a thin girl to be as follows:

For breakfast a little fruit, oatmeal, and

cream; toast, and a glass of milk. For lunch, bread and butter, and milk—plenty of it—baked potatoes, with salt and butter, and stewed fruit. For dinner, an ordinary mixed diet, not too great a variety, with the food well cooked.

I know of a girl who was never able to lay on more than a few pounds of extra flesh. After about nine months of this diet she weighs fifteen pounds more than her average weight had been for years.

Massage, with liberal application of olive oil or cold cream, is beneficial in most cases of extreme leanness.

Nothing is better for the thin girl than plenty of fresh air and sunshine. Breathe deeply and often, especially in the open air.

Warm baths are good for the thin girl, though she should wear plenty of clothing so that she will never become chilled; she may take a cool rub afterwards. Cold is an enemy to the thin girl. Time spent in the sunshine will well repay her.

Learn how to relax, both in action and in rest, because nervous tension is one of the banes of this condition. When you take your daily periods of rest, let down the tension of

your muscles and nerves by some exercise: You will find it most restful to simply open and close the eyes slowly and drowsily, simulating sleep; stop thinking, and yield to the soothing influence of the movement of the eyelids. Study the chapter on Rest and Sleep, and learn to relax every muscle of the body.

Development Exercises

You cannot find anything which will more quickly develop the neck than the following resisting exercise: Lay the head in the palm of the hand at the temple; then move the head slowly toward the shoulder, resisting the movement with the force of the hand. Come back to erect position of the head in the same way, resisting the pressure of the hand by the head. Repeat this exercise to the left.

Clasp hands at the back of the head, and carry the head back, resisting with the hands. Take chin in hand and repeat the exercise in the opposite direction.

If you will faithfully perform these different movements every night, not too vigorously, but with intelligence, you will

find that at the end of three months the hollows at the base of the neck will have entirely disappeared, and the prominent bones in front will be smoothly covered.

Since this is a resistance exercise, it should be followed by a relaxing movement, making that of the head rotary, which also has a plumping effect upon the neck.

Let the head come slowly forward and down until the chin rests upon the chest. Now, keeping the face to the front, move the head to the back as far as it will go, to the left and front; reverse the movement, revolving the head several times.

This may be done after one is in bed, as it has a very quieting effect upon the nerves, thus being an excellent preparation for sleep.

Another method of filling in the scrawny outlines of the neck is to take a deep breath, and then force the breath down into the neck, thus swelling out the neck. Or the muscles may be exercised by a rigid contraction of the jaw, often repeated. The first-named exercises, however, give better results in every way.

Arm swinging develops the chest muscles, the same which are so quickly increased in

size by swimming. There is no better way of increasing your bust measurement than by regular swimming practice at the sea. But if you wish a method which can be



FIG. 11.—The hanging bar.

followed out at home, practise this resisting exercise:

Different chest muscles may be reached by varying the position of the arms. For instance, push the heels of the hands together strongly

at waist line from right to left, and reverse. Practise the same exercise breast high, and finally overhead.

Whatever exercises will benefit a flat chest will also benefit a deficient bust. The most important exercise in this respect is deep breathing.

The exercises given for the development of the upper arm will develop the bust. In the muscular development of the arms, girls are naturally inferior to boys.

Nearly any boy can pull himself up by a bar till his chin touches his fists, but very few girls are able to accomplish this feat. There is such a close connection between the arms and the muscles of the front and back of the trunk that any exercise which develops the arms will also develop these upper trunk muscles.

A splendid resistance exercise for the arms, back, and bust should be taken very slowly:

With arms at side, inhale deeply, clench the fists, flex the elbows, bring fists to shoulder, moving the lower arm only, and resisting the movement partly. Now, with fists shoulder high and held there, bring elbows slowly out and up to shoulder level; the third part of the

movement is to carry the fists close under the armpits and back as far as possible; cross the fists high up on the back, and then lower

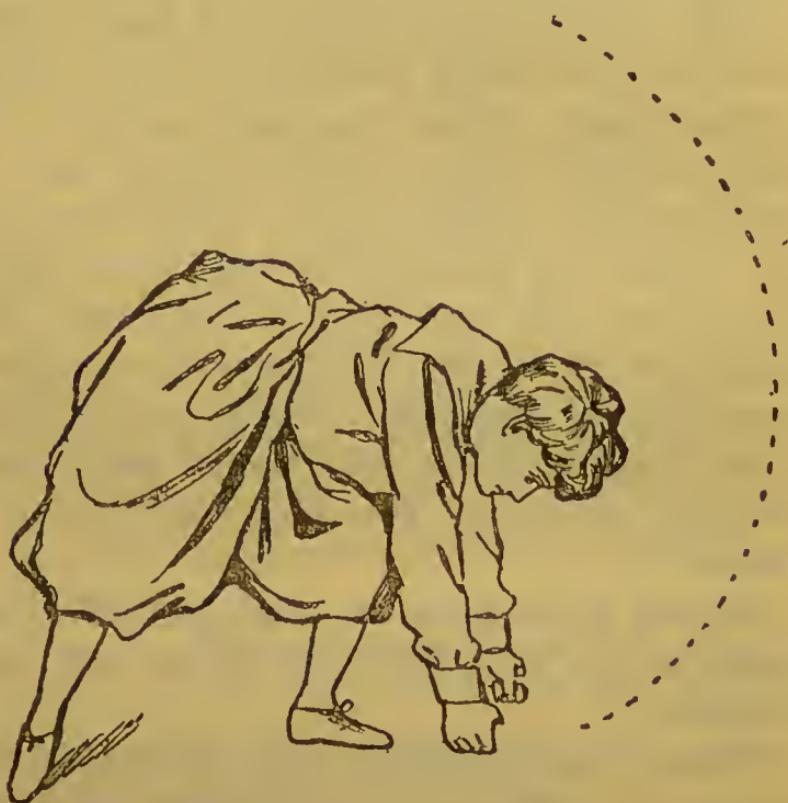


FIG. 12.—A resistance exercise for the arms.

them easily to the sides. Every part of the exercise includes resistance.

Lifting weights from the floor to enlarge the upper arm need not be done with an

actual weight in the hands ; in fact, it is much better for girls to control the resistance, regulating it according to their own individual strength, which varies from day to day.

Take a long step forward, and bend to the floor with the hands touching the floor ; take a deep breath, clench the fists, and pull the arms up, as if lifting a heavy weight ; as you lift, carry the weight of the body slowly to the back foot, flexing the back knee ; keep the elbows high, and twist the fists until the palms are up, elbows back as far as possible ; now forcibly expel the breath, at the same time shooting the arms forward and down, bending again to the floor, every muscle relaxed.

Repeat three times to the right, and three times to the left ; follow by three deep, slow breaths.

There is an important back muscle in the upper arm which is not affected by lifting weights. An eminent piano teacher recommends a movement for this muscle to increase facility in octave playing : Take position with arms front, shoulder high, the backs of the hands together. With a strong tension, contract all muscles vigorously ; slowly twist the

hands round, moving the forearm only ; when you come to the point where the hands can go no farther, pause a moment ; then twist the entire arm as far as possible ; come back to position in the same way, twisting first the forearm, and then the upper arm. Repeat till tired.

To increase the size of the forearm, open and close the hand rapidly with tension, increasing the number of times daily. Also bend the wrist back and forth as far as it will go, being careful not to use too much vigour, as the wrist is delicate, and should not be strained. The exercise of clenching and relaxing the fingers, given for development of the forearm, will also develop the strength of the hand.

For the development of the calf and the thigh, nothing could be better than fencing, if taken both with the left and the right, to ensure symmetrical development.

To develop the hips and the thighs :

Lift the leg to one side as high as possible, keeping the knee straight, and instep on the stretch. This movement should all come from the hips. Lift the right leg ten times, then the left leg ten times.

The second exercise for this purpose is the imitation of the pawing of a horse; the knee is brought upward, then downward, with a circular motion, the toe just touching the floor in the downward movement. This



FIG. 13.—Exercise for back, hips, arms, and legs.

exercise is alternated, first with one leg, and then with the other, ten times. Both these exercises will make supple the ankle and knee as well as the hip.

To strengthen the waist muscles :

Girls suffer especially from weakness of the waist muscles. Various causes account for this condition—indoor living, lack of exercise, constant sitting, and the use of the corset are the chief reasons.

The consequences of the weakness of these



FIG. 14.—Exercise for back, hips, arms, and legs.

muscles are most important and serious; many internal disorders are due to this defect; the pelvic organs, the kidneys, the liver, and the bowels, all suffer.

A simple exercise to strengthen these waist muscles is to stand with the feet close together, bend slowly forward, without bending the

knees, allowing the arms to hang downward toward the floor ; after going down as far as possible, raise the body a few inches, and then allow it to drop again toward the floor. Finally, rise slowly to erect position.

To develop the calf muscles nothing is better than hill climbing ; walking upstairs is also good, if it is done correctly. A simple exercise for this purpose is to rise on tip-toe, holding this position a few seconds, then lowering the body again. Do this alternately, now with one foot, and then with the other, and finally with both.

This not only develops the muscles of the calf, but also makes supple the ankles and feet. These poised exercises may be done while standing before your toilet table in the morning.

Tension exercises are good, taken from one to two minutes twice a day. They consist in the contraction of all the muscles of the body while in a standing position. This tension of the muscles decreases the arterial pressure and increases the elimination of waste. These tension exercises are best practised an hour before a meal.

In practising them, flex the different sets of

muscles in succession, one set resisting another, then reverse. Take, for example, the muscles of the arms. Hook the fingers of one hand into those of the other, bring elbows shoulder high and move to the right, resisting the movement to a great extent, but not absolutely, with the other arm. Return with the same resistance, exerted by the other arm.

CHAPTER VII

CORRECTIVE EXERCISES

Walking upstairs—Convent training—Shoulder raising for weak lungs—Uneven shoulders—Stimulation of abdominal organs—Nervous dizziness—Indigestion.

If you are conscious that your carriage is defective, you will find it a fine exercise to carry a light object on the head. An ordinary bean bag is very convenient.

First, take correct standing position ; then walk about the house up and downstairs, hands on hips, carrying the bag on the head all the while. This will give you the correct position for stair climbing.

When you walk upstairs, the back, neck, and head should be in a straight line ; do not bend forward as you pass from step to step ; place each foot flat on the stair, and take deep breaths as you slowly ascend.

Walking downstairs may be made a very graceful act. Do not spring upon the steps, but bend the knees, dropping the weight of the body from step to step with as little motion as possible. You will be surprised to find how quickly and easily your descent is made.

A French writer of the eighteenth century tells of a convent in which the girls were taught good carriage by playing various games. In one, they carried a light object on the head while they marched, and if they let it drop, a forfeit was demanded. Do not use anything heavy, for a light object is much better to call out the muscular activity by which the equilibrium of the vertical column, and so of the head, is maintained.

If you are flat-chested, a useful exercise for filling the tops of the lungs with air is shoulder raising. If the shoulders are even, they should be raised together with energy as high as possible, then lowered gently, in order not to jar the head. If the shoulders are uneven, practise raising the lower one till both are on a level.

As you know, tuberculosis or consumption generally attacks the top or apex of the lungs

first, and this exercise is most valuable in bringing the air into these parts, thus keeping them in condition to resist the inroads of disease to which they may be naturally susceptible to a greater or less degree. It is to the girl with weak lungs that we cannot recommend too strongly the value of exercise. To her condition it is a vital necessity.

Dressmakers complain that most girls have uneven shoulders, especially those who sit at a desk many hours in the day. The right shoulder is usually higher than the left. When you discover that you have this defect, change your way of sitting at your desk. This simple exercise will help you out:

Extend the arm of the lower shoulder upward, the hand grasping a dumb-bell. Lower the arm on the other side, and with this hand support a heavy weight.

Another simple exercise for this defect is to forcibly depress the higher shoulder many times a day. You can do this as you are sitting at your work.

Uneven shoulders are a common as well as an ungainly defect. Girls often possess them without being in the least conscious of their failing. The dressmaker is often the first to

call attention to them. Perfect shoulders are important to a beautiful physique.

An excellent exercise which affects the more



FIG. 15.—An exercise to straighten bent shoulders.

movable organs of the body is rolling back and forth upon the floor. It is well to practise this on a soft rug.

First, lie flat on your back, fold your arms

on your chest, and bend your knees slightly. Then roll the body over on to the side, resting on the ankle, leg, side, arm, shoulder, and side of the head. Gently roll over to the other side, so that the body will describe a half circle. Repeat this movement slowly, gently, rhythmically.

There is no special muscular action, but the exercise acts more particularly on the circulation, causing a more even flow of blood through the body, and slightly changing the position of the internal movable organs. This exercise is used sometimes in cases of wind colic, due to collections of gas.

Another exercise to straighten bent shoulders, excellent for girls who have to sit a great deal, is performed by placing a wand across the back, letting it run out through the bent elbows, as you will see by the illustration. The arms are bent, so that the hands rest on the chest.

Keep the arms and shoulders pressed back and down, and walk about the room for five or ten minutes.

This will have a fine effect upon your carriage, in the meantime strengthening the muscles of the feet, back, and shoulders. For

those of you who sit long hours in school, and find it difficult to sit and stand straight, this practice will be very helpful.

For the special stimulation of the abdominal



FIG. 16.—The “exercise of hewing.”

organs, an exercise of trunk bending is very beneficial.

Stand with your feet a little apart, arms extended above your head. Then sweep

forward with the body, extending the hands, in which you may hold balls or light dumb-

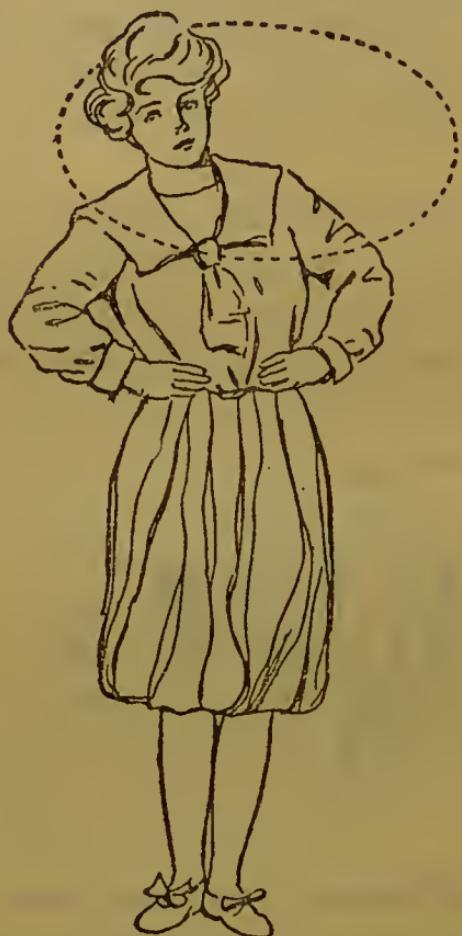


FIG. 17.—A fine exercise for abdominal muscles.

bells as far back as possible between the calves.

This is called the "exercise of hewing." It gives you very much the same effect as wood chopping, which, by the way, is an excellent exercise.

A fine exercise for the abdominal muscles, and consequently for constipation, is as follows:

Bend the body forward at the waist; then move it to the left, back, and right successively, before straightening it. Reverse the direction by moving first to the right, then back, and sideways to the left. Do not raise the trunk to the erect position till the end of each set.

Take all these movements in a gentle manner. In this exercise a straight line drawn through the body describes the figure of a cone with its apex at the angle of the spinal column.

Trunk rotation brings into play many of the muscles of the back and hips, the sloping muscles of the abdomen, and all the muscles of the bowels.

The circulation is stirred up, and consequently all the abdominal organs are excited to do their work in a vigorous manner. In sluggishness of these parts, this

exercise is effective in restoring the normal functions.

A good time to practise it is just before going to bed at night and on getting up in the morning. In addition to this, the kneading exercise that was given under the section for healthy girls is excellent for constipation.

“Liver squeezer” : Take standing position, first stretch the right arm up as far as you can, reaching downward as far as possible with the left hand. You will unconsciously sway toward the left; alternate the movements, using your arms like a windmill. This is excellent for the muscles of the side, and for a torpid liver it is most effective.

If you suffer from nervous dizziness, turn the trunk only on the hips, and describe a wide circle from left to right, then from right to left. This is somewhat similar to the exercise already given for circling the body about the hips. All the muscles about the hips, as well as those of the abdomen, are exercised, and the whole digestive apparatus is stimulated.

Its practice is very beneficial when there is inactivity in these parts. If you are troubled by nervous dizziness, this exercise will help

you, for by it you will get used to turning your head in a circle. If this is hard to do at first, begin by performing it in a sitting position ; you will then grow used to it by degrees.



FIG. 18.—An exercise for nervous dizziness.

Exercise for indigestion: Combine the exercises of jumping and hewing ; spring from standing position into position with feet wide apart ; at the same time bring arms quickly over head ; now bend to the floor, bringing the arms between the knees ; then

with another spring bring the arms to the side and the feet together in first position. Repeat till tired.

A common defect is curvature of the spine in a greater or less degree. However, in case of any defect of this kind, no girl should ever try to apply an exercise to her own needs without the personal examination and advice of a specialist.

The branch of medicine known as Orthopaedics has for its object, primarily, the prevention and correction of children's deformities. In a broader sense it includes patients of all ages. The recent advance in this department of medicine has been so rapid and so extensive that only those physicians who have paid special attention to it are truly fitted to give advice to those who have such defects as curvature of the spine, deformities of the feet, or any other trouble of like nature.

CHAPTER VIII

EXERCISES IN HOUSEWORK

Bread-making a good exercise—Hygienic working dress—Floor-scrubbing for elevating internal organs—Position at wash-tub—Height of ironing board—Floor-sweeping.

THERE is no sphere in life where a girl needs to be so careful about the development of her figure as in housework. One reason for this is because nearly all the work that girls do in the house lies directly in front of them.

It is such a temptation to stoop over to do most kinds of housework. Suppose you are paring apples, how easy it is to curve your back and shoulders, and when you get up, you sometimes forget to straighten yourself out again. The next time you do it, it is so much easier to stoop a little farther toward your lap; and so it is with everything that you do sitting down, especially with sewing. Be careful about such things, for if these bad

habits are kept up for several years, your shoulders will be round, the blades will stand out like wings, and your head will protrude forward as if you were searching for something out of sight. This means that your chest will be flat and narrow, that your neck will be thin, that your breathing will be shallow, and your complexion consequently muddy; your bust will be undeveloped, and your abdomen and hips will be prominent.

“But,” you ask, “how can I help it?” You can help it, if you only try. Suppose you are the bread-maker for the family; take this work as a substitute for dumb-bells. Stand erect, throw your shoulders back, and during the whole time of the kneading take deep breaths in unison with the motions of your hands.

Of course you know what splendid arm muscles you will have after you have worked at the bread dough once or twice a week for six months. You will be ready for elbow sleeves next summer. In order to be able to stand erect you must have the moulding-board at the proper height.

The ideal way of doing your housework is to wear a special dress for this purpose. The

most rational one that I can suggest consists of bloomers and a loose blouse, made of flannel, like a gymnasium suit.

If you have ever worked about the house in this garb, especially if you have to run down to the cellar or climb a ladder to hang a picture or to hammer in a nail, you will wonder how you have ever worked before in your ordinary gown.

Next to this in comfort comes a light flannel suit with the same sort of blouse, and with a short skirt instead of the bloomers. The collar should be loose and low, for it is only by giving your neck plenty of room for development, and allowing it to come in contact with the air and light, that a beautiful neck may be preserved or an ugly one improved.

The tight, high collar is responsible for many ugly, scrawny necks, as well as for the discoloration which so many girls are unhappy about. You must treat your neck as carefully as any other part of the body, if you wish it to be beautiful. Apart from making it scrawny, the unhygienic dressing of the neck also accounts for many serious throat troubles.

Corsets are entirely out of place with your housework gown, and so are high-heeled slippers.

Perhaps you are lucky enough to have some of the floor-scrubbing or wiping up to do. You do not always realise how you can turn nearly every part of housework into a fine physical exercise.

Much has been said about elevating the vital organs. When you do the real old-fashioned scrubbing, getting down on your hands and knees, you are really taking one of the most scientific positions for raising your internal organs, but you must remember to keep your back straight, your chest forward, and your abdomen drawn in. Then, too, you must use your hands equally, first the left and then the right. This exercise will give your shoulders splendid development.

The principle of being ambidextrous is important to remember in housework. In sweeping, use both sides of the body; make one work as well as the other; change the broom from side to side, for, if you limit yourself to one, soon a difference in the hips will be noticeable, and you will develop a figure not to be proud of.

As for washing, you will need more care in that than perhaps in any other part of housework. You must combine thought and

exercise with bending over the tub, for you are obliged in this work to lean over in one position, and to inhale hot steam at every breath. Be careful to keep your mouth shut during this work, and breathe through the nose ; make occasional stops for exercise, and the deep breathing of fresh air. Straighten yourself up with some stretching exercise, and breathe deeply for a minute or two away from the steam. It will do much to rest you and to offset the disadvantages of this work.

When you hang up the clothes, the same muscles are brought into action that are used in the gymnasium with some of the dumb-bell exercises. If you have the opportunity of going to a physical culture teacher, she can give you instructions in the methods of doing housework which will show you how closely allied each part of it is to the various exercises that are given in a gymnasium.

You can develop your figure just as well by means of housework, if you do it properly, as by a special system of physical culture. All exercises that develop the chest muscles help in the development of the bust. Deep breathing can be continually practised in housework ; this will develop lung capacity, cultivate a

beautiful voice, and give colour and smoothness to the complexion.

Other exercises for the development of the bust consist in raising the arms in various positions, even in bending the head at different angles, or in raising weights. The whole purpose of these exercises is to bring into play the muscles of the parts concerned.

All these movements, together with those used in washing windows, scrubbing and sweeping, bread-kneading and bed-making, develop the muscles of the arm and chest, and improve all this part of the body.

Walking forms a great part of household exercise, and it is most necessary to do this correctly in order to reap its benefits. In walking upstairs, walk erect; do not bend over, and never run upstairs. This is a most pernicious habit, and one as easily overcome as it is acquired, if a little care is used.

Always remember to hold the chin in, and let the chest lead. Draw in the abdomen, and the shoulders will naturally fall into the proper place. Then with deep breathing through your nose you will not run much risk of injury from housework. Remember to bend only at the hips; do not bend at the

waist. This will give you a good poise, and will keep your back straight.

It is well in sweeping to twist just a little at the hips, and this will give the side bending of the trunk which is so beneficial to the internal organs, especially the liver. Floor sweeping is better than golf.

Raising a window is a fine stretching exercise, but be careful how you do it. Hold the abdomen in, keep the back nearly straight, do not bend forward, but raise the sash by pushing with your feet.

Holding the vital organs high is one of the first principles of health.

When you are standing or walking you are in a position especially well adapted to the elevation of the internal organs. Hold the hips back, lift the crown of the head up and back, hold the chest forward, and you will not need to "push the shoulders back." Hold the abdomen in, elevating the internal organs as high as possible.

This position will be at first too tiring to keep very long at a time, but take it frequently, and the muscles will gradually become strengthened so that special attention need not be given to correct position.

CHAPTER IX

MASSAGE OR PASSIVE EXERCISE

Use of massage, joint troubles, headache—Self-massage
—Benefits of massage—Facial massage—Scalp
massage.

MASSAGE has a distinct place in hygiene. It is, of course, a form of exercise. For those who are not able to take sufficient active exercise, massage offers a very good substitute.

If you sit a great deal of the day, and your occupation is of a sedentary character, you must take some means of stimulating your whole body. In order to keep in perfect health you must give your tissues and organs the same amount of exercise by other means than your more active companions get who do more physical work. Massage in certain cases offers this method, and may sometimes be depended upon almost entirely by itself, or

may be simply used as an addition to other forms of exercise.

You may say then: "How about outdoor sports?" I do not mean to ignore them, but it is sometimes almost impossible to indulge in them, and you may be in a physical condition which makes you unable to do so. In all such conditions massage offers an excellent substitute.

In indulging in outdoor sports, it is often a temptation to overdo them. Massage can be more easily regulated. It is on record that a number of cycle riders who covered a long stretch in a short time were all found to have defective hearing at the end of the race. After resting for two hours, the hearing in nearly all of them had become normal again. But this shows the danger of over-fatigue.

I have known many troubles that had not yielded to other treatment cured by massage. I know well a girl who for years had suffered at times from intense pain in the joint of the jaw. It would come on very suddenly, and as she expressed it, her jaw felt "out of joint," and at these times she could eat only the softest food—the soft part of bread, and soups.

She was finally persuaded to take massage. She had treatment three times a week for three months. At the end of this time she was entirely relieved, and has never been troubled since with the old pain.

Massage will often relieve or cure a headache. It is sometimes applied to the nape of the neck. Massage is most beneficial in cases of constipation.

Some people never perspire until they undergo a course of massage.

A well-known writer gives a few simple but very practical and helpful suggestions with regard to self-massage.

It is to be taken as soon as you rise in the morning. The body is stripped down to the waist. Shivering is a proof that you are very tender, and that you are sadly in need of massage.

In order to prevent shivering, take a large Turkish towel and throw it quickly over your shoulders. Then begin a thorough rubbing with the towel.

As soon as you feel comfortable, throw off the towel, and use only your hands. With the palm and fingers of your right hand rub down the front of your left arm to the wrist,

then up the back of the same arm to the shoulder. Repeat this ten times. Alternate then with the left hand.

Next rub the throat. First, use the right palm, rubbing it over the throat and left side of the neck up to the ear ten times. Alternate with the left. You may now use both hands.

Rub from under the arms down to the hips ten times. Put your arms behind you, and with the backs of your hands well rub your back, and down over the kidneys.

You can then take up the towel again, grasping one end with the right hand over the right shoulder, and the other end with the left hand down at the waist-line. Rub thoroughly in this way the back and the shoulder, including the spine. Then toss the towel down under the arms, and rub it across the back and up and down.

Change sides again. If at this time you are feeling in good condition, and are not too tired, you can give your legs a rub. Do as you did with the arms; rub first down the front of the leg and up the back.

You have now practically taken in most of the body. Put on your clothes.

One part remains still to be rubbed—the

soles of the feet. Rub first one sole, then the other, with the palms of the hands. This is a very important part of massage, as the nerves of the soles of the feet are very sensitive. You will learn in our talk about feet how important the perfect health of these members is to the health of the whole organism.

The exposure of the skin in the way that we have mentioned is an excellent preventive against taking cold.

Rubbing is beneficial when it extends from the nape of the neck to the bottom of the spine and up again. The rubbing is done in deep circles with the thumbs and the palms of the hands.

Great things are promised for massage by its advocates, and I believe that many of them are true. I think the secret of its good results lies in the fact that it stirs up sluggish circulation, not only of the blood-vessels themselves, but also of the lymphatic system. By its aid waste products are chased out of their hiding-places, and are pushed on into channels through which they are carried along and eliminated from the system.

It is claimed by some authorities, and it

would seem within reason, that there can scarcely exist such things as boils or pimples, or any such defects, when massage is thoroughly and systematically carried out. It is claimed to be most helpful in cases of obesity. In such cases a very deep, firm massage is necessary.

Before massaging the face, it should be thoroughly cleansed. You may use a soft brush or a cloth, with warm water and pure soap. Many like the after stimulation of cool or cold water. This is particularly beneficial, as it tends to contract the pores which have become relaxed by the application of heat.

For the lines which run horizontally across the forehead, the fingers should rub up and down, or preferably across the lines in small circles from the centre outward.

For those straight wrinkles rising perpendicularly from the bridge of the nose, rub the fingers across. You can do as much or more to efface these lines by keeping your face in repose as you can by massage.

The massage should be applied with a firm and steady pressure. The rotary motion with the tips of the fingers is excellent for nearly

all wrinkles. This can be used for those already mentioned.

It consists in moving the second and third fingers in little circles or wheels. The kneading is done firmly, and is continued backward and upward. Or you can take the four fingers and knead deeply with them in little circles. It is a good plan to practise these motions on a pillow.

The skin about the eye should never be touched without the application of an oil or cold cream, and then very gently. This skin is tender, and very susceptible to irritation.

Some girls are troubled with the laughing wrinkles or "crow's feet." The ends of the second and third fingers are placed firmly on the temple. They should not be allowed to slip as they knead deeply upward toward the forehead. It is a good plan to place the other hand just above the space that you are massaging, in order to hold the skin firmly, so that it cannot be pulled or stretched, thus causing more wrinkles.

For puffiness under the eyes you should always consult a physician, as this often indicates some internal trouble. But massage will be helpful in building up the sluggish tissue.

The rotary movement should be used with the first or second finger, upward and outward toward the temple.

For the deep lines running from the corners of the nose to the mouth, vigorous upward and outward rubbing will be of the greatest benefit.

Remember never to rub your face downward, even when wiping it with a towel. The general direction in handling the face should be upward and outward.

An excellent method of massaging the skin about the eye is to rub the finger around under the eye from the nose, outward toward the temple, then under the arch, close to the eye—and inward toward the nose again.

You cannot expect too much, however, from the massage of the skin below the eye, as defects here often indicate some internal derangement.

As to the neck, use the same motion for those lines as you have used for the wrinkles of the forehead. It is well also to begin this treatment by washing the neck according to the directions given for washing the face.

Now for the double chin. Massage of this part, backward and forward—you can use a massage roller very well for this work—will

give you pretty rapid results. This sagging under the chin is not always caused by excessive fat, but is often due to relaxed muscle. The exercises which have been given, especially for the neck, will also be of benefit to you in beautifying this part.

The dressing of the neck has much to do with its beauty, and is referred to under the chapter on clothing.

It is well in massaging yourself to spend only a few minutes at a time, and remember that the first step to take is that of removing the cause which has led to the weakened muscle and failing tissue.

A very important point in relation to the contour of your cheeks is the preservation of your teeth ; for when they are once gone, the bony sockets in which they grew, and which materially help to hold out that part of the face, are gradually absorbed. This leads to a sinking in, which nothing can remedy.

If your cheeks are hollow or sunken, the movement referred to above, of rubbing upward and outward vigorously, will help to bring the blood to the surface, and nourish the tissues.

Scalp massage is most important to maintain

the vigour of the hair. It is well to loosen up the scalp, which is sometimes hide-bound because of faulty circulation. Place your finger-tips on the top of the head and work the scalp, and you will easily see what I mean.

If your scalp is flexible, and slides to a certain degree without difficulty over the tissues underneath, you may be satisfied that it is not hide-bound. If, however, it is stiff, and moves only slightly, you will find that after manipulation for a short time there will be a great improvement. The rotary movement for the scalp is excellent for stimulating its circulation. An important point to remember is to move the scalp itself, and never rub the hair.

A method of massaging the scalp for resting tired nerves is to raise the scalp by pressing the hands on opposite sides of the head. This pressure should be very firm, and is applied now to one part, now to another. The effect of this manœuvre is extremely restful, but I should never advise its application in any case but that of young people.

Scientific directions in relation to the indications for massage must always be sought

from a physician who can personally observe the case, for it is as impossible to give offhand accurate directions in surgical or medical cases for the application of massage as it would be to give general directions for a prescription for a patient whom you have not seen.

Although it is quite possible to obtain considerable benefit by following out the simple descriptions that have been given in this chapter, nothing will teach you the proper movements of massage or rubbing like several treatments from a practical masseuse. You can so gain more than you can from any written description.

CHAPTER X

THE CARE OF THE SKIN

Functions—Structure—“Skin heart”—Area of skin—
Beauty of skin dependent upon health.

THE skin is one of the most interesting organs of the body. It is tough, yet sensitive and elastic, and it serves various purposes. Although at first sight it would appear such a simple structure, it is really quite complicated. It may be considered as the skin itself, the glands which secrete both perspiration and oil, and the hair and nails, which are really appendages of the skin.

Its functions are most important ; it is the organ of the delicate sense of touch. It is capable of absorption ; and through it many impurities pass out. The skin is really the foundation of beauty, and it cannot have too much care, while it repays every attention that is given to it.

In order to get a clear idea of its structure, it is necessary to look at it under the microscope. We there see several layers. The most superficial is known as the scarf skin, or cuticle. This really forms the protective layer of the surface of the whole body. It is composed of tiny scales or horny plates. These are very thin, and are laid one over the other, like slates on a roof. They are closely attached, except on the very exterior, where they are being constantly loosened and thrown off.

Perhaps you have noticed, after wearing your stockings for two or three days, that you can shake out a little cloud of white dust from them. This means that the superficial layers of the skin cells have been cast off, and have clung to the stockings. This would be scarcely, if at all, noticeable if you changed your stockings daily, and if you took a thorough rubbing after your morning bath.

It is said by those who have travelled in the East that Western people do not know what a thorough bath means. There is nothing more fascinating than to read a description of the oriental baths. The various processes through which the bather is put takes off all waste matter from the

surface of his body, and thoroughly cleanses it.

The insensitive layer, or, as it is called, the horny layer, varies in thickness in different parts of the body. It is thickest on the palms of the hands and on the soles of the feet, and thinnest on the eyelids.

But let us look at our little section under the microscope. Below this top layer we find a little line of coloured cells waving along. These contain the pigment which gives the tint to the skin. When this is absent, we have the albino ; when it is present in the extreme degree, we have the negro.

Both heat and light have the effect of increasing the amount of pigment in the skin. You probably know to your sorrow that those little dots that we call freckles are very much encouraged by the sun and heat.

The farmer, who is exposed to all kinds of weather, shows the effect on his pigment cells in his bronzed face. The sailor also gives evidence of this effect, and stokers who stand before fierce fires for hours each day have brown spots on their legs to testify to their occupation.

That part of the skin which lies beneath this protective layer is made up of many fibres. This is known as the corium, and is called the true skin. When the skin of animals is tanned, and the leather is ready for use, it represents the corium.

Below this layer is the connective tissue, in which the blood-vessels, the lymphatics, the nerves, the sweat glands, and the deepest hair roots are found. Sometimes there is a cushion of fat between these two lower layers.

One writer has called the system of blood-vessels in the skin, and in the tissues directly underneath, the "skin heart." This system is extensive enough to hold nearly thirty per cent. of the blood in the body.

The capillaries in the skin have been estimated to measure ten thousand square feet. They are in direct connection with the central circulatory system. In the twenty-four hours, fluid to the amount of one-fifth of the body weight may pour out through the skin. The two pints of sweat produced every day is double the amount of water that is thrown off by the lungs.

Respiration through the skin is very important. If a frog is dipped into oil, it will

die more quickly than if its windpipe is tied. This is because the respiration through the skin is stopped.

The average area of the skin covering is about seventeen square feet.

The skin has its own muscles, as you can readily see when from cold or fear you have "goose flesh"; the muscles have contracted, and the tiny hairs stand up on end.

The skin receives the outflow from numberless little mouths from the perspiratory and the oil ducts, and in this way many noxious matters are poured out upon its surface.

You can see, then, that the skin must be regarded in two lights, both from the standpoint of beauty and of health. The two are so closely connected that one cannot stand without the other.

But one part of the skin we have not yet spoken of, and that is the papillæ. These are tiny prolongations which stretch up under the horny layer. They are furnished with most sensitive nerves, and their presence accounts for the sense of touch. The horny layer protects them from injury, otherwise existence would be a torture.

You all know that when the true skin is

exposed what pain is caused. You have probably, at some time, blistered your hand, and have had the misfortune to lose the cap of skin which was raised in order to protect the injury. The pain came from the presence of these sensitive nerves.

A beautiful skin without any blemishes comes directly from good health, and the first step to health and to a beautiful skin is to get and to keep the blood pure. There is no such thing as beauty unless the blood is in good condition.

The whole blood system is like a gorgeously coloured Venice, with scarlet waterways and little boats hurrying to and fro. The latter carry two kinds of messengers, market boys and scavengers. The market boys are the more vigorous, and are represented by the red blood corpuscles, which bring nutrition to all the tissues of the body ; the scavengers are the white blood corpuscles, which gather up the refuse.

If both of these are trained to accomplish their work well, then you are assured of health and beauty, for the blood has everything to do with the appearance of the skin. If your blood is pure, your skin is sure to be clear.

CHAPTER XI

COMPLEXION

Cleanliness the secret of beauty—Application of face lotions—Moles—Lotion for red nose—Dry skin—Florid complexion—Causes of skin troubles—Wrinkles.

You already know that careful attention to all the laws of hygiene will do more for your complexion than lotions. Bathing, diet, exercise, breathing, cheerfulness, all go to make up the sum of beauty. If you are careful in these respects, it will be very difficult for you not to have a good complexion.

Nevertheless, the different skins vary in their structure, and you must use your good sense in caring for your own. If, for example, you have an oily skin, you must take certain precautions that you would not need to observe if your skin were dry.

Under the subject of baths, we have discussed one of the essential factors in the care of the skin. The skin of the face, perhaps, requires more care than that of any other part of the body, because it is more exposed than any other part, and it is more delicate.

Abrupt changes of temperature, both of air and water, are very irritating. In washing the skin of the face, the first step should be to wash the hands thoroughly ; then pour away this water, and use perfectly fresh, pure water for the face. Various troubles are caused by rubbing the soiled hands over the face, for, although you may not be conscious of it, the hands harbour many microbes, even when you think that they are comparatively clean, and these you may easily rub into the skin of the face.

The ideas of many authorities are at variance concerning the question of the temperature of the water for bathing the face. A good plan is to wash the face at night with hot water and almond meal. Follow this by friction with a towel not harsh enough to irritate. If you choose, you may dip your hands into cool water after

the hot bath, and gently dab it over the face.

After the bathing, do not go out immediately into the air, but wait a little while, for the delicate face skin should be protected against sudden changes, and especially against cold.

Always keep a separate glove for your face, and, indeed, it is well to have two for this purpose—one for the soap and one for the clear water. Don't use a sponge, for it harbours bacteria, and you cannot keep it clean. The best material for a washing glove has been said to be raw silk. After using, wash it, and put it occasionally into boiling water. Keep it clean!

You must never relax in your attention to the skin, for the most exquisite cleanliness is one of the chief secrets of health and beauty.

If the water from the tap is hard, and you cannot get rain water, put a few drops of ammonia, or a pinch of borax, into the basin. This will soften the water, and make it very cleansing besides. Compound tincture of benzoin, about a dozen drops to the bowl of water, is very refreshing to the skin.

The circulation of the skin of the face needs stimulation as well as that of other parts of the body. Facial massage, if properly applied, is very helpful toward keeping the marks of age in abeyance.

Do not steam the face, but if the circulation is not good, place a towel wrung out of hot water on it. Alternate with towels wrung out of cold water. Do not keep up this treatment for more than five minutes. Then use a good cold cream.

After the toilet of the face has been completed, it is well to rub it with a silk handkerchief. This gives a polish, not a shine, which is pleasing.

It is well to use a little alcohol after your bath, or, indeed, at any time. Alcohol toughens the skin, and gets it into condition to resist the onslaught of sun, wind, or cold.

A Turkish bath, now and then, opens and cleanses the pores. If you take a salt rub at this time it is very stimulating, and the skin will feel like satin when you come out from the bath.

An oil rub, especially if your skin is dry and harsh, will be beneficial, and will help to put it into normal condition. The Greek

bath, in which seven parts of pure olive oil and one part of lavender water are used, is exquisitely refreshing. Rub the mixture well into the skin, being careful to keep the body very warm; take this bath for three successive nights.

When you come in in the evening, and are going out again into the air, it is a wise precaution to cleanse the face with a good cold cream or olive oil. If you have never tried this, you will be a trifle abashed at the amount of mother earth that will come off on the towel. If you are afraid that this will leave the face greasy, you may use a powder made of prepared chalk seventy-five parts, and zinc oxide twenty-five parts.

And are you troubled with freckles, as so many girls are? It is often said for the comfort of this part of the population that the thinner and more delicate the skin, the harder it is to care for, and the more subject it is to all sorts of "beauty spots."

When you have a particularly prominent crop of freckles your kindly disposed friends will tell you that it is only the finest and most delicate skins which are affected in this way. This is rather cold comfort.

The freckles cannot be scattered without getting down to them. They are below the surface, and not on the skin ; consequently, the outside skin layer must be removed. There are various home remedies to use for this trouble.

Lemon juice with glycerine is one of the best. Some girls think they cannot use glycerine at all. Perhaps they cannot ; but it is probably because it is not diluted sufficiently. Pure glycerine is a great irritant. It should therefore be mixed with water, so that it may be mild enough for use.

There are few cases in which, if this dilution is sufficient, the mixture will not prove beneficial. The proportions of lemon juice and glycerine may be equal, or they may be varied according to the effect upon the skin. As a rule, the thinner the skin the smaller should be the amount of lemon juice.

Another way to dispose of the surface layer of the skin is to rub a fresh slice of lemon over the face, letting the juice dry on and remain for a time. The acid will cause the superficial cells to scale off. The glycerine may be applied later for the sake of the softening effect, but the first method is preferable.

A simple lotion for freckles, and one that is quite effective, is composed of a drachm of ammonium chloride to four ounces of distilled water. Night is the best time to apply a face lotion, and after the face has been bathed in warm water.

As to still stronger preparations, I should not advise their use without the direction of a physician.

A nightly lave with buttermilk or sweet milk makes the skin of the face very soft and white.

Veils have, perhaps, more to do with affecting the complexion than you may think. Plain chiffon or gauze is the best material. It must not have dots of any kind, as the oculist will tell you that many eye troubles are caused by wearing fancy meshed veils, even though you may be perfectly unconscious of the trouble that you are causing for yourself.

The colour of the veil makes considerable difference. Red is the best to keep off freckles. As this colour is not apt to be very popular in veiling, reddish brown stands next in favour. If this seems strange to you, think of the different uses to which, in these modern days, the different colours of lights are put, especially

in skin diseases, and the logic of it will then appeal to you. Next in value to the red veil comes white chiffon ; most injurious of all to the complexion is the black veil ; next to this stands blue.

Many girls are troubled with pimples, which even go on to acne. They seem to come in groups, and are often very painful. One set is scarcely gone before another makes its appearance. Sometimes they are due to an internal derangement which requires the advice and treatment of a physician. Not infrequently they follow indulgence in rich and indigestible food.

If the cause is not deep-seated, local treatment will often be of benefit. An excellent lotion for pimples is : Milk of sulphur, one drachm ; tincture of camphor, one drachm ; rosewater, four ounces. This may be applied several times a day.

A good lotion for blackheads is : Carbonate of magnesia and zinc oxide, each one drachm ; rosewater, four ounces. This should be mopped on the spots, and later the bulk of the "worm," which is the thickened contents of a tiny oil tube in the skin, may be gently pressed out, after the face is softened with hot water. A reliable cold cream is then applied.

Be careful how you press out these little plugs. Do not bruise the surface by using your finger-nail or the round of a watch-key, for the harm you can do in this way may take days to remedy. Very often, too, scratching or bruising leaves a discoloured spot.

Take a soft handkerchief and fold it several times loosely, so that it will form a pad under each thumb ball ; then gently force out the "worm." There are tiny instruments called comedone extractors, which can be bought at almost any chemist's for this purpose, and it is well to have one of them on hand. You should use this at night, as there is nearly always a little redness left after the squeezing, and it is well not to irritate the skin just before going out into the air.

"Moth patches" are due to a deposit of pigment in the true skin. A good lotion for them consists of one half drachm of salicylic acid to two ounces of bay rum. This may be mopped on the spot night and morning. Colourless iodine may also be used. But these applications should be made carefully.

Moles are mentally very distressing, especially when they grow on the face. Those from which hair grows are most

unsightly, but one should never attempt to use home remedies, since these defects are too deep-seated for superficial treatment.

They may also, if interfered with ignorantly, be the starting-point for cancerous growths. Never meddle with them ; if you must have something done, consult a skin specialist (I mean a *physician*) or a reliable surgeon, and follow the advice given to you. Those who advertise publicly are, as a rule, untrustworthy.

Many suppose warts to be contagious, but this has never been proved ; neither is it at all probable that they are caught from toads. Their habits are curious, and many odd traditions are afloat about them. Sometimes they disappear suddenly for no apparent reason.

Caustics, such as nitric acid, chromic acid, or acetic acid, are often efficacious, but are too dangerous for use in the hands of any but an experienced physician. Many lifelong scars have been caused by their use. A simple remedy for warts is the following : Get your chemist to put up a drachm of salicylic acid and an ounce of collodion in a bottle which has a tiny brush run through the cork. Apply this mixture to the warts twice a day, and they will disappear.

Any ordinary corn cure, of which the basis is salicylic acid, will accomplish the same result.

Scars that are left from pimples or scratching sometimes last quite a while, but gentle massage of these with cold cream will nearly always improve their appearance. Much patience is needed, however, for it will take time to efface such marks.

Some girls are troubled with red noses. The nose is very easily affected by various internal disorders, and it is always well to seek carefully for the cause. Frequently this defect is due to eye trouble or to tightness of some part of the clothing. It may be the corset, it may be the collar, it may be the sleeve.

The following lotion is excellent for local application: Powdered calamine, one drachm; zinc-oxide, one-half drachm; glycerine, one-half drachm; cherry laurel water, four ounces.

This lotion should be well shaken before using, and mopped on the nose both morning and evening.

Do not use cold cream, vaseline, or the like before exposing your face to wind or sun—but afterward.

If your face is too oily, wipe off the oil once or twice a day with dilute alcohol. Put a pinch of borax into the basin now and then when you wash your face. Avoid all rich and greasy foods, and leave off butter for a little time.

If your complexion is too florid, look to your diet; it may be too stimulating. Do not drink tea or coffee or alcoholic beverages. Avoid greasy foods and spices. Fruit and green vegetables will be good for you.

If you cannot make your cheeks rosy, you can at least have a clear skin. Not all girls can have rosy cheeks. Some girls always have them.

As to the causes of skin diseases, these are legion. Some skin troubles are merely local, and consequently are cured by local treatment, while others are due to some more deeply seated cause, and have to be treated accordingly. Many are known to come from disordered digestion, and it certainly behoves us to look well to this function, and to be extremely careful of diet.

The healthy girl of this generation does not suffer from lack of appetite; indeed, her appetite needs rather to be curbed, especially

in the quality of food that it demands. Although eating ought to be a pleasure, we ought never to forget that we eat to live, that it is the food we take which forms the fuel which is converted into blood and gives nutrition to our bodies.

Regularity of the action of the waste-eliminating organs, the skin, the kidneys, and the bowels, all contribute to keep the body in good condition, and they play their part—a most important one—in making and keeping our complexions what we would have them.

One of the substances in the skin proper is elastic, and it is distributed throughout it in tiny spirals. They act like the mainspring in a watch, for when they are straightened their tendency is to return to their normal state. In this way, after a strain, these little fibres return to their original condition and tend to smooth out the skin. Naturally, the elasticity is greater in the young than it is in the old, and this fact accounts for the wrinkles that are seen in those of advancing years, for the elasticity of these little skin springs is not sufficient to restore the stretched tissues to their original condition.

This should make one very careful about distorting the face, or twisting it in any way, for there will come a time when the elasticity will be at such low ebb that lines will furrow the forehead and crow's feet will branch out from the eyes, laughing wrinkles will disfigure the mouth, and the double chin will hang in a pouch.

Besides this elastic substance, there is another element which has to do with the lining of the face. It is the skin muscles. These are both voluntary and involuntary. By means of the former, we express any emotion that sways us for the time. The latter are not under the direct control of the will, but are influenced by changes in temperature and by mental conditions, such as embarrassment or fear. They contract and relax according to the nature of the excitement. It is to these muscles that we owe profuse perspiration, for they are relaxed by heat, and as some of them lie about the outlets of the perspiratory glands, they relax these openings when the body is subjected to heat, or they contract the same when the body is subjected to cold. When we exercise vigorously, the blood flows to the surface

with the extra heat, and these muscles relax, so that perspiration is poured out on the surface of the body. This is a salty fluid, as you know, and evaporates slowly; so by means of this action and reaction the body is kept in health at about the same temperature. If you take a little magnifying glass and look at your hand, you will see many little pits which, you know, are pores. The average number of these in the body has been estimated to be between two and three hundred thousand. This shows how important it is to keep all these little openings free, in order that this part of the drainage system of our bodies may be kept flushed and clear. Besides the perspiration of which we are conscious, there is an imperceptible evaporation that is taking place from the surface constantly, which is known as insensible perspiration. Although this goes on so quietly, still the total amount of fluid passing from the body in this way has been estimated at about two pounds or pints daily. You can see how necessary it is, especially when you are perspiring freely, not to check the outflow suddenly. When you have been dancing, and are very warm,

do not go outside to cool off, for in this way the tiny muscles will contract, and the work which the skin should do is thrown with a shock upon the internal organs, which then become congested with the blood which is thrown back upon them, and — you have "caught cold."

Food has a decided effect upon the skin. Plenty of good, cool butter is one of our best foods. It is only when fat is fried, and thus changed into fatty acids, that it becomes harmful to the digestion, and thus hurtful to the skin.

Girls have their own limitations in the matter of diet; some are not able to eat tomatoes; strawberries not infrequently produce a most annoying rash. Shellfish —lobsters, crabs, oysters— are sometimes most troublesome in their effects. Oatmeal often causes an eruption.

Sugar, which we have heard abused from the time when we bought our first chocolates on the way to school, is an excellent food, provided it is pure, and is not taken in quantities greater than can be assimilated. The liver should not be overburdened by a great quantity of sweets, but a small quantity of

pure sugar is easily digested and absorbed, and under certain circumstances it may be formed into fat.

Spices, mustard, and various appetisers serve to stimulate the gastric juice, if their use is not abused, and if they are taken in moderation.

Hot soups flush the face, especially if the skin is delicate. The effect of alcoholic beverages in this respect is well known. Starches of all kinds, such as potatoes, ought always to be thoroughly cooked.

Pork in any form, and veal, should especially be avoided, as well as very highly-seasoned foods and "made" dishes. Other articles of diet, which sometimes give trouble, are bananas, nuts, mutton, and cheese.

Only by mastication is our food brought into condition for absorption by the blood, so that we get the greatest possible benefit from what we eat. Nuts are full of nutrition, and, generally speaking, are harmful only when eaten too freely after a hearty meal or between meals.

Cheese may be digested with ease, if taken separately into the mouth and thoroughly masticated. If girls would take more milk

and less meat their skins would grow velvety, and resemble more nearly the peaches and cream complexion that every one of them is anxious to possess.

Water is also an invaluable aid to the beauty of the complexion. It should be taken before retiring, as well as in the morning, and between meals, in generous quantities. At least three pints a day should be taken, and it may be either hot or cold.

CHAPTER XII

PERSPIRATION

Sweat glands—Effects of atmosphere—Oil glands—
Excessive perspiration—Curious cases—Lotions
—Substances causing body odour—Treatment for
dry skin.

THE sweat glands are made up of tiny tubes, which end in coils. These little coils are placed deep down in the true skin, or even in the fat underneath. The sweat ducts curl upward till they reach the surface of the skin. You will see their outlets on examining your skin carefully, for you know them as pores.

If all the sweat tubing in the body were laid in a straight line, it would reach for a distance of nearly eighty miles. This forms one of the important means of carrying off waste products, as well as water, from the body.

Excessive perspiration, in which the water forms in drops, and even runs down the body in little streams, may amount to two or three pounds in an hour. This is the way in which we lose so much from exercise or a hot bath.

There are some curious differences in animals as to the way in which they perspire. A man sweats all over his body; so does a horse, an ox also, but to a less degree; the hedgehog and the cat sweat only on the soles of their feet; the pig sweats on its snout; the ape in the palms of his hands, while the mouse, the rat, the goat, and the rabbit do not sweat.

The condition of the atmosphere has much to do with the amount of perspiration. If the air is very damp, the perspiration cannot evaporate easily; but if the air is dry, or if the wind is blowing, perspiration is quickly evaporated, and is then called insensible. If the air is hot, the skin perspires; when the perspiration evaporates it cools the body.

The difficulty of evaporation in a damp atmosphere explains the reason why we suffer so much more on a humid day. That is why we can endure a higher temperature in the Turkish bath than in the Russian bath. In the former the air is dry, while in the latter

it is moist. In cool air, the skin blood-vessels contract, and so the warmth of the body is retained, because there is less blood in the surface of the skin to be cooled.

The oil glands are not placed so deep as the sweat glands, and they generally open into the hair follicles. The oil which they secrete keeps the skin soft and serves as a protection. Excessive perspiration is a great annoyance in many ways. It is generally confined to certain parts of the body, as the armpits, the hands and the feet, the scalp, and the chest. It is often very hard to remedy. In some cases it cannot be cured by any measures, perhaps, short of X-rays, but only relieved, for it is often very resistant to all kinds of treatment. It is not always easy to tell whether the condition is really one of excessive perspiration, or whether the glands are normally very active; but if it exists to such a degree that the individual takes cold very easily, or if it becomes weakening to the nervous system, it is then quite safe to say that the perspiratory apparatus is in a disordered condition.

Stout girls are the ones most apt to perspire in all parts of the body. It is useless to try to treat this condition without at the same time

paying attention to the general state of obesity, and using measures to overcome the disturbances of nutrition which give rise to corpulence.

The absolute causes of excessive perspiration are not very well known. It is found in all classes and conditions—in those who are very particular in their personal care, and in those who are not; in all ages, in both sexes, and in the healthy and sickly alike. This condition is sometimes preceded by sensations of prickling or oppression.

Certain curious cases are known where excessive perspiration occurred in only one part of the body. It is sometimes seen in cases of neuralgia. Diseases of the nervous system are sometimes complicated by this troublesome condition. Some girls subject to sick headache perspire in limited parts of the head.

I knew of a girl who perspired on one side of her head to such an extent that she could never arrange her hair well, as it was always wet; another who perspired so freely on the left side that her left sleeve had to be changed very often. It is not unusual to see a girl whose hands perspire so profusely as to ruin her gloves.

Excitement of any kind and weakness often give rise to excessive perspiration. Sweating is generally, although not always, more profuse in the summer than in the winter. Sometimes the exertion of eating causes sweating in certain parts of the face.

A case of sweating from the palms is reported, in which the quantity of perspiration was enormous. When the hands were held down, with the fingers extended, the sweat would drip off from the finger-tips so rapidly that pools of water were formed on the floor. The amount of sweat from one hand in five minutes amounted to about an ounce. This girl had to wrap her hands in towels at night in order that the sheets might not be soaked. Treatment did little good.

In certain cases perspiration of the soles of the feet is so excessive that the patient is unable to use them on account of the pain in walking. This is due to the skin being so tender from constant immersion in the sweat. For those who are subject to perspiration from any emotion or excitement, it is sensible to live as quiet a life as possible, to avoid excitement, and to build up the system by means of fresh air, good food, and

exercise. Normal sweat is odourless, but many cases are known in which the perspiration has a most disagreeable odour. These are also very difficult to treat. Permanganate of potassium solution makes a good wash. A one per cent. solution of formaline will often benefit, but in the severer cases, the skin specialist's knowledge should be sought.

Excessive sweating of the feet has been noted to be hereditary in many cases. A good lotion for excessive perspiration is: Tannic acid eight grains; bay rum four fluid ounces. Sometimes certain medicines or foods will cause odour in the perspiration. Garlic and onions eaten in large quantities have been known to have this effect.

Certain drugs, such as sulphur or phosphorus, impress their odour unmistakably on the perspiration. Even silver articles carried in the pockets of a person who is taking sulphur will at times become black, proving that the drug is exhaled from the skin. Among other substances which are known to cause body odour are turpentine, tar, coffee, alcohol, iodine, truffles, and valerian. Salt baths are sometimes of benefit in this trouble.

There are odours known as professional odours of the skin. One of the most persistent of these is noted in men who care for horses. It is very lasting, and can sometimes be noticed for weeks after the man has stopped this work. Druggists, tanners, butchers, and soapboilers all have a characteristic odour. Then, too, various diseases have their own peculiar odour, so that an experienced physician can detect it at once upon entering the sick room.

The hair of the scalp has an odour, which may be called normal. This smells like musk in the Chinese, without the use of any toilet preparation. Hair that falls from the head loses its odour, so that a hairdresser can recognise from the smell whether hair has been cut from the head or has fallen.

Occasionally, the body has an agreeable odour, resembling orris root, bananas, or even violets.

All these odours are due to the decomposition of fatty acids in the perspiration. In cases in which a girl is conscious of a distinctly disagreeable odour that she cannot overcome by personal care—and she will often find that this is possible if sufficient

attention be given to baths and clean clothing —it is well to consult a physician.

Oftentimes tonics are of service to build up the system. It will depend to a certain extent upon the state of the patient's health, upon the length and location of the disease, and upon its severity, as to how soon or how perfectly this trouble may be overcome.

Another curious anomaly of perspiration is the different colours that it sometimes shows. The typical forms are black, blue, and grey. Sometimes it is red, brown, green, or yellow. This is caused in certain cases by a reaction occurring between the sweat and the clothing. Sometimes it exists together with certain internal disorders. These cases are often very obstinate.

The lower eyelids are, perhaps, more often affected than other regions. Under the influence of some emotion or disturbance they become congested and painful, while a blackish or bluish discoloration gradually spreads over the entire surface of the lid. Sometimes the cheeks and forehead are affected, and at times other parts of the body. Not infrequently the clothing under the armpits is stained a rusty hue.

A girl wrote me not long ago that bathing under the arms with bay rum would prevent this discoloration. She also said that she could remove the stain from the clothing by means of bay rum.

It is quite possible that coloured sweat is due to germs. The colouring matter adheres very closely to the skin. Water, even with brisk rubbing, will not alone cleanse the skin. The pigment sometimes seems to be made up of some oily or greasy substance which resembles lampblack. It is also very difficult to remove the stain of perspiration from the linen. A French writer states that the skin can be perfectly cleansed by means of oil. Other authorities have not had the same success.

Girls who suffer from this affection are often of the hysterical type. It occurs generally in the young, not often being seen after thirty years of age.

For the malodorous, excessive sweating of the feet, it is said that the following powder is used in the German army : Salicylic acid, two scruples ; starch, one-half ounce ; powdered talcum, two and one-half ounces. In mild cases a bath of alum water may be followed

by the application of a dusting powder of starch, prepared chalk, or orris root. Another dusting powder that may be used consists of one ounce of zinc oxide and four ounces of powdered starch.

As we have already said, many remedies may have to be tried before one that is really effectual for the individual girl is found, and in some cases nothing is absolutely satisfactory. Two or three simple formulæ may be added for excessive perspiration. An eminent skin specialist advises as a remedy a tea of white oak bark applied freely to the perspiring parts; and for the bad odour, a wash of an ounce of hydrate of chloral to a pint of water.

A prescription for a powder which will prevent excessive perspiration is: Oleate of zinc, one drachm; powdered starch, one ounce; salicylic acid, one-third of a drachm. Dust this frequently over the affected parts.

There is another condition of the sweat glands, in which they do not secrete at all. This may occur in certain grave diseases, such as diabetes or tuberculosis, and in some nervous affections. In these cases the general condition must first be treated. The dryness of the skin may be relieved by applying the following

preparation, known as glycerite of starch : Starch, two drachms ; glycerine, two ounces. These ingredients should be rubbed together thoroughly in a mortar till well mixed, and then slowly heated, with constant stirring.

CHAPTER XIII

CONSTIPATION

Causes of constipation — Consequences — Effect of faulty posture upon the bowels—Mental control of function—Diet—Value of water-drinking—Mastication — Physical exercise — Massage.

WITH all the attention that has recently been given to the subject of sewage and drainage in our houses and cities, how many girls stop to think how far more important is attention to their own eliminative functions ?

The consequences of defects in the performance of digestive functions are far-reaching, and I believe are the cause of a great majority of the diseases which are so prevalent in modern times.

There are various causes of constipation, one of the chief being neglect of the calls of nature. The digestive apparatus is so closely associated with the nervous system that it is

extremely susceptible to the influence of habit.

There is nothing more important for the proper performance of the eliminative functions than the faithful observance of a certain hour each day. Any deviation from this rule, or irregularity in the time, will most surely have its effect, as you all undoubtedly have observed. The nerves of the intestines, which are normally sensitive to the presence of a foreign body when it is ready to be thrown off, become dulled when attention is not given to this matter, and consequently fail to perform their work.

Then again, one of the results of faulty posture is downward displacement of the bowels. This condition leads to catarrh of the intestines, and thus to intestinal indigestion, and so on to constipation and sometimes to diarrhœa. In such cases mucus is often seen in the motion.

Some girls indulge in the very bad habit of reading at this time. You cannot satisfactorily attend to two functions at the same time.

The mind and the will have a great deal to do with the proper performance of these duties. You probably have had the experience of

becoming so absorbed in other matters that the desire for defecation which came on at the regular hour finally passed away.

Concentration on this part of the day's work is as necessary as it is in everything else that you do.

Any depressing influence, such as worry or prolonged work, will soon affect the nervous system and cause all the physiological functions to become slowed.

Diet has often much to do with constipation. In certain girls the intestinal lining is so delicate and irritable that coarse foods, such as contain the woody fibre of fruits and vegetables, are irritating. In such persons diarrhoea and constipation sometimes alternate.

In other girls the intestines are less irritable than normal; consequently, coarse foods are necessary to stimulate them to their proper action. In this regard, as in so many others, one person differs widely from another, and each girl must become familiar with her own physical peculiarities.

We eat too much meat and white bread, too many eggs and potatoes, while we take comparatively few vegetables and coarse grains which are rich in woody fibre.

We are too apt to be fond of dainties—pastry, puddings, sweets, etc.—and to neglect the more substantial articles of diet.

Many girls fear to eat much fat, having the idea that abstention from fat will improve the complexion. This element, however, is necessary to keep the bowels in good condition, and in many girls is beneficial to the skin.

A modern writer on constipation goes into careful details of the diet suitable for this condition. Brown bread is excellent for certain forms of dyspepsia with constipation. Oatmeal, taken with treacle, is also advised. Oatmeal acts as a laxative in many cases. Of course, when there is a catarrhal condition of either bowels or stomach, this diet is not suitable.

Stewed prunes, cracked wheat, and hominy are all mentioned. Green vegetables, such as beet tops, greens, spinach, lettuce, cabbage, cauliflower, and asparagus, all act on the bowels, from the fact that they contain woody fibre.

Other vegetables, such as cucumbers, parsnips, carrots, green beans, green peas, sauerkraut, the various vegetable salads prepared with French dressing, and fruits, all have their place.

There are certain articles of diet which, although not containing much waste matter, still have a tendency to stimulate the action of the bowels, or to keep their contents soft. Of these are oils, fats, butter, buttermilk, treacle or syrup, vinegar, and salt.

Some of the foods mentioned as having a tendency to cause constipation are potatoes, dried beans, dried peas, sago, rice, barley, and cheese. Blackberries, nuts, eggs, and pickles, green tea, milk, cocoa, pepper, and mustard are also included in this list.

Food should be carefully cooked ; frying should be prohibited in the case of those who suffer from constipation. There is always a certain amount of dyspepsia in those who have this trouble, and fried food only adds to the complaint.

A certain philosopher has said that "man is a cooking animal." Food must be cooked before it is fit to eat. However, others hold exactly the opposite view.

At breakfast and at the evening meal stewed fruit should be taken in liberal quantities ; apples, pears, and plums are excellent ; so are prunes, figs, and tamarinds. Avoid tinned peaches, because they are said

to have a tendency to constipate. A girl should be careful also not to overeat, as this also is an element in causing constipation.

As to drinks, cold water offers an excellent stimulus to the action of the intestines. Those, then, who have a tendency to constipation should drink plentifully of cool fresh water, at least two pints a day, between meals. As a routine measure, they should take a glass of water the first thing in the morning and the last thing at night. Herb beer and sweet cider are often beneficial. Alcoholic liquors, otherwise, should not be touched.

You have all heard how many times Gladstone used to chew each mouthful of food he took. I believe it was about thirty times. The next time you take a mouthful of bread or meat, try this yourself. Notice how the very taste will change, and the consistence of the mouthful will be far more ready for the stomach's work than it ordinarily is.

Many of the soft foods, such as bread and potato—in other words, the starches—need careful mastication, because they are really partly digested by the juices of the mouth. Do not think, then, that because food is soft

that it is safe to swallow it without chewing. Of course, this means that your teeth must be in perfect condition.

As in all other parts of your daily life, physical exercise is here most important. Sometimes the lack of this comes from indolence; sometimes it is due to sedentary occupations.



FIG. 19.—Kneading the abdomen.

At the same time, constipation results from too much exercise. Fatigue causes loss of nerve tone, and the intestinal muscles lose their normal power of propulsion.

Do not be careless about your exercise, or about your posture. Remember that lack of exercise is one cause of constipation. So is

faulty posture, for this often results in weakness of the abdominal muscles. And this is an element in producing constipation.

Do not let fat accumulate in your abdominal walls, for this also decreases muscular vigour.

Walking is especially good for the constipated girl.

I know of no better general exercise for constipation than gentle gardening.



FIG. 20.—The description of this exercise is given under corrective exercises.

Massage, which is now generally admitted to stand in the front rank in methods of treatment, may be given by a masseuse or by yourself.

The abdomen should be bare when massage is employed. The rubbing should last from five to fifteen minutes, according to the severity of the trouble; and the time may

be broken into two or three parts. Massage must never give pain, and should be given according to instructions in the chapter on massage.

An excellent exercise is taken in a loose garment. The girl sits easily on a chair with her feet on the floor. She leans first to one side, touching the floor with her hands, then alternates, changing to the other side. In this way the bowels are stimulated by pressure of the abdomen against the thigh.

Use any exercises which include trunk rotation, bending of the trunk forward and backward, raising the flexed knee as high as possible, extension and flexion of the knee forward and backward, the "hewing" exercise given before, and stooping and bending, or squatting and rising, also rolling over on the floor—all are beneficial.

A physician who writes on this subject suggests as a substitute for massage in chronic cases the use of a metal ball, weighing from four to six pounds. This is to be rolled over the abdomen for five or ten minutes every morning. Sometimes a hollow ball containing shot is used. The

movement of the shot gives an impetus to the ball as it is rolled over the abdomen.

Electricity is often tried, and the use of cold water in the form of showers, compresses, and so forth, is attended with good results.

Consequences

Many serious consequences result from a condition of constipation. Headache, furred tongue, foul breath, and loss of appetite are often traceable to it.

A good point to remember is the desirability of fully evacuating the bowels just before the menstrual period. It will often-times relieve the pain, for the organs are congested at this time, and there will be less pressure upon the sensitive parts if the bowels are freely moved.

The girl who is constipated often suffers from lassitude, debility, and mental depression without realising what the trouble is. Injury to the entire body, as well as to the intestines themselves, is apt to result from the accumulation of waste matter which ought to be thrown off.

In constipation certain poisonous substances are absorbed from the intestines and carried

through the system. They go first to the liver, and then to the general circulation, and we then have the condition called "biliousness." These poisons are more apt to be formed when the intestines are inactive.

I know of a girl who was obliged to drop her college course from ill-health. Her mind was affected, due, it was said, to over-study. She was thought to be insane. She was taken from one eminent physician to another, but without relief, until finally one discovered that the whole cause of the trouble was obstinate constipation. After the correction of this condition, her normal health and clearness of mind returned, but she had lost her college days.

Not only does constipation often affect the mind, but it leads to various other serious conditions, such as appendicitis, hemorrhoids, dropsy of the legs, dilatation of the rectum, intestinal obstruction, torpid liver, jaundice, palpitation of the heart, neuralgia, sciatica, irritating cough, earache, insomnia, diseases of the genital organs, and constant noises and rollings in the abdomen, which are so extremely annoying. Constipation is the cause in many instances of the condition popularly-called "poor blood."

In treating this trouble, the cause must first be removed. A girl should attend to this function at least once daily at a regular hour, whether the desire is present or not. Whenever there is an inclination, respond at once; never delay.

Never read at this time. Be careful about your daily exercise. Never overtax your mind. Be careful of your food and drink. Breathe plenty of fresh air both day and night. Do not take purgatives, such as strong pills and patent medicines.

But many physicians believe, and I think rightly, in a dose of castor oil, one or two tablespoonfuls, as a routine practice about once a month. Headache is often cured by a dose of castor oil. It is generally admitted that although the bowels may move regularly once a day, there is now and then room, as it were, for a special house-cleaning.

There is a story told of an ancient physician who stood at the head of his profession in his own time. His friends were troubled, as he advanced in years, that he had never committed to writing any of his marvellous knowledge. They feared that it would die with him. They appealed to him to write a book.

He replied that he would do so, upon the condition that it was not to be opened until after his death.

He ordered a special tome for this purpose, and after he had passed away it was opened with the greatest reverence.

Instead of closely-written pages, the book was blank, with only these words upon the fly-leaf: "Keep your head cool, your feet warm, and your bowels open; this is the whole of medicine."

The waste matter that is eliminated from the bowels is made up in great part of the indigestible elements of the food. Those having a tendency to constipation, as well as those in whom it is already developed, should eat a large percentage of coarse food. Due regard must be paid, however, to those cases of unusual irritability which have already been mentioned, in which this diet cannot be taken. Coarse food forms the stimulus which incites the bowels to action.

Attention to the regular movement of the bowels will not alone bring health, but beauty is assisted by the perfect function of these organs. The complexion is bound to suffer from neglect in this direction.

CHAPTER XIV

THE PERIODIC ILLNESS

Average age—Climatic conditions—Symptoms—Question of exercise—Simple remedies—Bathing.

THE average age of the beginning of the menstrual function is thirteen or fourteen years. It sometimes begins several years before, and again it is sometimes delayed until several years later. As a rule, if the general health continues good, no concern should be felt at irregularities of this nature.

This function lasts till the average age of forty-five years, though in certain cases it is known to have ceased when the girl was still in her twenties. There are also remarkable cases on record of its lasting to the period of old age.

This flow takes place, as a rule, once in every twenty-eight days, and normally lasts

from three to six days. These periods also are subject to certain variations in different individuals. However, in the individual there should be regularity.

The quantity of flow is greater in city-bred girls and in those of leisure than in girls of the hard-worked labouring classes. Anything that over-stimulates the mind or body has a tendency to increase the flow. High living, rich food, dancing, vigorous physical exercise, extreme emotion—all, as a rule, have this effect.

Girls in warm climates menstruate earlier and more profusely than those in cooler climates.

The symptoms of this condition are well known. The nervous system is then always at its highest point of tension. There is apt to be pain in the abdomen and back. Some girls are hysterical at this time, and some are often drowsy and depressed.

These symptoms are apt to develop a day or two before the flow appears. There is a distaste, as a rule, for active exercise. The girl suffers from lassitude and general discomfort.

If you have a serious question under

consideration, it is as well not to make the decision during the menstrual week.

There is not infrequently a headache on one or more days during this period. Dark circles appear under the eyes. In certain cases the breasts become swollen and painful.

These symptoms, however, are not alarming, although they should not be allowed to pass to an extreme.

Watch yourself carefully during these periods, and if you observe that you are unusually irritable, keep a tighter grasp on your self-control, and try to appreciate the fact that you are not quite your best self.

If the world looks dark, and people appear unfriendly, remember that you are being influenced by your physical condition, and do not pass judgment until you are feeling more nearly normal. You will then generally find that the world is just as bright and your friends as loyal as you had believed them before.

If you learn to observe yourself carefully, you will notice that the better your general condition, the less you are disturbed at this period.

The uterus is so loosely held that any

abnormal condition in the organs about it may easily displace it. The bladder should be attended to, and the bowels kept free, as a distended bladder or a packed bowel may result in a displacement of the uterus, and consequent pain and misery.

It is very dangerous not to empty the bladder every few hours. I know of a case in which a young girl went horseback riding. She had not attended to this function, and the bladder was distended to such a degree that the violent exercise resulted in its rupture.

If you are fairly well and comfortable during the menstrual period, a moderate amount of general exercise, such as your daily walk, may be taken without injury. You should be well protected from the weather. But if you suffer pain, I think it an excellent plan to lie in bed for the first day. You will notice a great difference at the next period if you take good care of yourself.

Excessive muscular exercise should certainly be avoided, as also athletic games, and the exercises given above. The use of all stimulants which promote the flow, and sometimes

cause it to be excessive, should be abstained from. Excessive flow is sometimes due to thinness of blood. If the flow continues to be excessive, there is probably some diseased condition, and a physician should be consulted.

Painful menstruation is abnormal. It is sometimes due to exposure to wet or cold. A drink of hot tea or water, a mustard foot-bath, the application of a hot-water bag and rest on the back should be the treatment. If the pain, however, recurs from month to month, a physician's advice should be sought.

The subject of bathing during menstruation is one concerning which there has been very little investigation. Various authorities differ, some holding one view and some another.

The Japanese, who at other times are so devoted to the bath, forbid it during menstruation.

As in all other matters, personal idiosyncrasy differs. I happen to know two women, mother and daughter, whose physical peculiarities vary most widely in this regard. The mother takes a cold plunge with impunity during the whole period, never changing her ordinary habits at this time, whereas the daughter is absolutely unable to bathe at all, with the

exception of a little local sponging with warm water or alcohol. These cases represent the extremes.

I believe that there are very few instances in which some kind of bathing cannot be taken with benefit during the whole menstrual period. Many physicians believe that the girl may continue during the entire period the habits of bathing to which she is accustomed, but I do not approve of the ordinary bath for the first three days. For every precaution should be taken against a possible chill.

It is well known that the secretions at this time are apt to have a stronger and more disagreeable odour than usual. There is sometimes even a peculiar body odour which is unpleasant. Again, the breath may be disagreeable.

Remembering these facts, too much care cannot be taken to keep yourself sweet and dainty. The parts most concerned should be carefully washed with soap and warm water several times a day.

CHAPTER XV

BATHING

Effects of different temperatures—Shower bath—Sea bathing—Sun bath—Air bath—Mud bath—Russian bath—Turkish bath—Alcohol rub—Oil rub—Needle bath.

IT is said that in Japan the death rate is lower than it is in either Europe or America. There are various factors in the life of the Japanese which account for this low rate of mortality.

The houses are off the ground for a foot or two, they have no cellars, the air in their houses is as fresh as that out of doors, and everyone bathes and has a good scrubbing every day—at least, in such places as Tokio.

The population of this city is less than 2,000,000, and from 800,000 to 1,000,000 persons go to the public baths daily, while

there are tens of thousands of private baths besides.

The old-fashioned notion of a Saturday-night tub as an incident in a week's routine is fast passing into oblivion, though we are still occasionally reminded of this rural custom.

One of our most sumptuously appointed hotels is said to have harboured the writer of the following letter, a young woman recently risen to affluence :—“ Dear Mary : You should see our beautiful apartment. The library is wonderful, so bright and cheery ; the dining-room is a dream, and the bedroom so comfortable ; but oh ! I am saving the best for the last. Mary ! you should see our bath-room. It is so tempting that I can hardly wait for Saturday night to come ! ”

In discussing the subject of bathing, you need perhaps more than in any other department of hygiene to exercise common sense, for what will give health and strength to one girl will not agree with another. The physician can give general directions, which will be of great assistance to a girl in choosing the kind of bath best suited to her special

constitution, but after that she must use her own judgment. Sometimes it may be that she will have to vary the kind of bath she takes according to the condition of her health.

So many girls ask me, "Shall I take a cold or a warm bath?" This will depend entirely upon the constitution. Take the bath that makes you feel strongest, and that takes the least vitality from you. Unless there are reasons for not doing so, a daily bath of some kind is an absolute necessity for health. There can be only an arbitrary distinction between hot and cold baths, but a convenient way of classing them is as follows: A hot bath means over 98° Fahrenheit; warm is between 90° and 98°; tepid varies between 65° and 80°; and a cold bath is any temperature below 65°.

In considering the effects of a bath, we find the three most important to be cleansing, stimulating, and soothing. As a rule, the property of cleansing seems the most important of these.

In order to obtain this effect in its highest degree the use of warm water is necessary. You should take this bath at least once a

week. Do not forget to own a bath thermometer, for this is a great convenience; and when you decide upon the kind of bath that suits you, use your thermometer daily, and you can always have the same temperature.

The necessity for soap will depend upon the quality of the skin and upon its exposure. If the skin is oily, and is exposed to much dust and dirt daily, the need for soap will be greater than in cases of the opposite character. If the skin is harsh and dry—that is, lacking in oil—you should then use soap sparingly.

And now, what kind of soap is best? For general use I like the pure Castile. You must remember again that what agrees with one may not agree with another, so the matter of soap is also one for individual discretion. For the face, I approve of the fine French toilet soaps. You cannot buy a good soap cheap. Never grudge the money that you spend on a good article. Beware of a cheap soap.

Avoid highly coloured and scented soaps. There is apt to be little virtue in so-called medicated soaps; the name is usually an

advertisement merely, and does not guarantee worth.

Now and then people, such as washer-women, who use strong washing soaps or powders, are troubled by an obstinate eczema which cannot be cured until the cause is removed.

I heard of such a case the other day, in which a young girl who served as waitress also got up the table linen. It was only after the most careful investigation that she admitted using a powder in the water for whitening the linen. Her hands were in such a condition that she was obliged to wear gloves in her capacity as waitress; her nails were in a shocking state. No treatment alleviated the condition until the cause of the trouble was discovered and stopped.

Some girls suffer from itching or burning directly after the bath. This affection, called bath pruritus, may continue for only a few minutes, or it may last for half an hour. It is confined chiefly to the legs. It seems to be increased by too long a stay in the water, or by extremes of temperature; it may also be caused by soap that is too

strong. Scratching not only affords no relief, but seems to increase the itching. It is noticed most often in persons whose skins are naturally irritable, and in those in whom there is a tendency to hives or eruptions; it is due rather to the quality of the skin than to the bath. I have noticed it in highly-strung, nervous individuals.

In treating this disturbance, any nervous or digestive trouble should be considered. The diet should be restricted and the person should take sufficient exercise; the bowels should be kept in good condition. Directions should be given not to remain too long in the bath. The soap should be of the best quality, and not too strong.

There should be little rubbing after the bath, but the body should be dried gently, and it is well to apply a dusting powder.

A good one is composed of starch and zinc oxide, four parts to one. Oil is soothing in this affection, and should be gently rubbed into the affected parts; it should be sweet and not rancid. Olive oil or the oil of benne is excellent for this purpose.

There has been long and bitter controversy on the subject of the proper temperature of

the bath. The defenders of the cold bath can see no virtue in the warm, while those addicted to the use of the warm bath see only harm in the cold. There seems to be only one point on which nearly all modern writers now agree. This is the necessity of individual judgment.

And how can you tell what bath is best suited to your own particular case? The proof of the effect of a bath is the reaction that follows. If this does not take place quickly and with comfort the kind of bath should be changed.

The effect of the cold or cool bath is stimulating. When the water comes in contact with the skin, the superficial blood-vessels contract, and the blood is sent to the internal organs, and the temperature there is elevated, while that of the body surface is lowered. Then comes the reaction; the skin vessels dilate, the blood rushes back to them, and there is a pleasant glow all over the surface of the body.

To bring on the reaction rubbing is necessary, and, indeed, forms one of the chief values of the bath. But if the bather feels chilly and languid, even if this lassitude does not develop

till an hour or two after the bath, and if the finger-tips and the lips are blue, then the bath has either lasted too long or has been too cold, or the bather is not in a condition to take a cold bath at all. A tepid bath is then better. Cold baths use up superfluous energy, and you should decide before taking them how much you have to spare.

An ingenious writer has lately calculated mathematically how much energy is expended in the reaction after a cold bath. He compares it with climbing up the stairs of a high tower.

The effects of the tepid and cool baths are the same as those of the cold, only in a less degree. The warm bath is soothing in its effects. The superficial vessels of the skin are relaxed, the blood flows into them, and the functions of the skin are increased.

When the temperature of the water is high, profuse perspiration is caused, and a very hot bath powerfully stimulates the nervous and the vascular systems. It cannot be long borne, and should be taken only by the advice of a physician who knows your constitution. Many of the temporary effects of a very hot sponge bath, if it is taken very rapidly, are

the same as those of a cold bath, while it has the advantage of not calling upon the vitality in the reaction; for the instantaneous effect of hot water is the same as that of cold in contracting the skin tissues.

If the bath be only moderately warm, it acts as a sedative to the nervous system, and only moderately stimulates the circulation.

After a hot or a warm bath, great care should be taken to avoid a chill, for the blood-vessels have temporarily lost their tone. Heat has the effect of stimulating the bodily functions—that is, by disposing of the waste matter—and a warm bath will do more to refresh one who is fatigued than a longer time spent in sleep.

For those who are engaged in business, teachers, physicians, business men, and all those whose occupations involve a sedentary life, the bath at a temperature of 92° to 95° is especially valuable. The bath may last from ten to fifteen minutes, or longer. It is often better than hypnotics in cases of insomnia.

If you are devoted to the cold bath, the best time for it is before breakfast. The cold bath should be avoided by the aged and by very

young children, by the debilitated and the weak, and by those who are fatigued. Baths should not be prolonged. Ten minutes ought to be enough for any cool bath, and you can learn to make it shorter. Six minutes is a very good limit for the morning bath. If within this time you cannot succeed at first in completing it, make several attempts, washing only a part of the body at a time, and you will find that after a few trials you will succeed in accomplishing it.

A cold tub bath can be taken in two or three minutes, for you need only to jump into the water and out, and to rub yourself dry. It is well before a cold bath to drink a glass of hot milk slowly, sip by sip, or hot water, for you should be moderately warm and in good condition before taking such a bath.

If you are not strong enough for a cold tub bath—and it is only very vigorous girls who are; many do themselves lasting injury by this kind of bathing—you may be able to take a cool or a cold sponge. This is taken by standing in a tub with a little warm or tepid water in it, and rubbing the cold water over the body. The best cleanser is the hand.

The natural warmth of the hand gives less of a shock than a cold cloth.

An excellent bath for most girls is a warm one, followed by a cool sponge or shower. In this way you have first the cleansing effect, and then the stimulating.

Criticism has recently been directed against the ordinary tub bath. This criticism has certainly a logical foundation, for in any form of tub bath the bather is using his own rinsing water. In certain conditions the evil effects of a tub bath are considered so great that the patient is not allowed to take it. The shower bath is substituted.

A bath which answers about the same purpose if you haven't a shower, consists in standing in the tub as described above, and thoroughly scrubbing with a brush, hot water, and soap, and then rinsing with cool water. When this is followed by a run, as referred to in the chapter on exercise, you will feel vigorous.

The benefit from sea bathing is greatly due to the pure sea air and to the relaxation from worry which comes in a trip to the seaside. However, there must be a certain virtue in the water itself.

I have seen a girl even in good health who was not able to take a sea bath without being chilled for an hour or so, and I have seen this same girl with her hands perfectly numb after coming out from a ten minutes' plunge. In such a case sea bathing must not be indulged in, as the individual is not robust enough.

A tepid or warm salt bath is very stimulating. It can be easily taken at home. Sea salt can be procured at any chemist's, and when put into the bath makes a very good substitute for a sea plunge. If you are neuralgic, thin-blooded, or very nervous, and especially if you have a weak heart, you should avoid tub baths. A handful of wet salt briskly rubbed over the skin is invigorating.

In seasonable weather an excellent place to take a sun bath is at the seashore. For here not only can we have the benefit of the sun, but we can also come very near to the strong heart of Mother Earth, whose healing qualities she so freely imparts to those who repose upon her bosom.

In one of the most charming of modern tales you remember how the little hero crept out from his sick-bed to lie in the dust

of the road in the sunshine, and was found here in his first peaceful sleep by those who had despaired of his life.

Few of us realise the wonderful, health-giving power of the sun's rays. It is well known that people who live in sunless rooms are never really well. I have heard that the life insurance rate is higher in the case of a man who spends his day in a sunless office.

If you ever go into a hospital you will see that the wards are exposed to the sun and air. The effect of dark living rooms on the weak or sickly is very noticeable. Sunlight is a powerful disinfectant and steriliser. "Sun baths" have many devotees in America. Either a part of the body may be exposed, or the whole.

For the thin, pale girl the sun will work wonders. And as a remedy for insomnia it is invaluable. It causes abundant perspiration, which is a great cleanser of the body.

The general method of taking a "sun bath" is as follows: The room should have a southern exposure, with generous sloping windows. The patient should lie on a couch, uncovered, or with a covering of thin cheese-cloth. A cot is really better than a couch. The cot

is placed in front of the window. Care should be taken to protect the head from the direct rays of the sun.

The proper length of the bath varies according to different factors, chief among which is the physical condition of the individual. The very feeble cannot well bear more than five minutes' exposure, while the robust can stand it for three-quarters of an hour. Of course, the intensity of the sun's rays must be taken into consideration. Another factor is the extent to which the body is exposed. There is nothing more strengthening to one convalescent from a long siege of fever like typhoid, or from a weakening disease, such as diphtheria, than a sun bath.

The specific effects of a sun bath are many. It is a decided tonic; it acts beneficially on the nervous system and upon all the vital functions. It is valuable not only in health, but in disease.

Mud used for baths generally contains alkaline and saline substances. These stimulate the circulation of the skin. It is said that the constituents of the mud simply act upon the skin, and are not absorbed by it. The patient lies in a tub filled with this mud,

which is about as thick as gruel. It is generally employed in cases of gout and rheumatism.

The effect of cold air on the body is about the same as that of cold water, though it is less severe. The refreshing effect of this bath can be realised from the delight with which we hail an ocean breeze on a hot summer day. This effect accounts for the use of the fan. Cold air is a powerful tonic. One of the first to call attention to the benefits of this bath was Benjamin Franklin. He used to walk about in his room at night before retiring after his clothing had been removed.

The air bath may also be taken out of doors, within high-walled enclosures which are provided for the purpose. There is no question but that the modern use of clothing hinders the proper function of the skin in many respects. Clothing retains noxious exhalations which should be thrown off.

Lying in cool, pure air promotes appetite and aids digestion, and its beneficial effects are quickly felt by those who try it.

The sand bath is also of value, and can be easily taken at the seaside. When the sun is very hot the head should be protected by a

cool cloth. When the skin is inactive, as is often the case in dyspepsia, this bath is very useful.

The indoor air bath is well accompanied by active exercise. It is well to have the temperature from fifty to sixty degrees. It may be much lower if the body is protected by a woollen blanket; in order to get the best effects it should be combined with a sun bath.

There are various other kinds of baths, namely, the Russian, the Turkish, the needle, the electric, and the peat bath.

The last named is medicinal, and wonderful effects are ascribed to it. There is a tradition that an Irish physician was the first to discover it.

The youngest child of a certain peasant's large family, so the story goes, was feeble-minded. The mother, instead of feeling tender toward the little one, kept it out of the house as much as possible, and it was forced to go and sit in the neighbouring peat bogs. One day the country physician, on going his rounds, noticed a great improvement in the little boy. He asked the mother what she had been doing to her child, and she

replied that she had no time to do anything for him ; that she had sent him out of doors, and he had been playing in the mud. This gave the doctor a new idea, and from that time, so tradition has it, mud baths have been noted for their medicinal effects.

The Russian is a hot vapour bath, while the Turkish is a hot air bath. More perspiration is caused by the latter than by the former. These baths are followed by the cold spray. The object of these baths is to produce profuse perspiration for the removal of impurities through the skin, which is stimulated later by the cold water.

The girl with heart trouble, or one who suffers from a full sensation in the head, should never take a Russian bath, nor should she take the Turkish. Neither should those who are not strong indulge often in these baths.

A home substitute for the Turkish or Russian bath is the cabinet bath. A small methylated spirit heater is used when the hot air bath is desired, while for a vapour bath a shallow vessel filled with water, or a prescribed medicated liquid, is placed over the lamp.

An alcohol rub is frequently given after the Russian or Turkish bath. It is stimulating, and there is less danger of catching cold after its use.

Among the peoples of northern countries the value of sweating is highly appreciated. A French traveller named Paulus has given a most interesting account of the steam bath that he took in the "Land of the Long Night." He describes the bath-house as being dark, with no light or air except what came in through the door. The room was about fifteen feet long, and about ten feet wide. In the centre had been piled up a mass of boulders, which formed a structure like an oven. There were several rows of seats along the walls; these were made from the branches of trees, and were built in tiers like seats at the circus. The native boys brought wood, which they put into the oven and ignited.

They kept this fire going from morning till afternoon, until the boulders were thoroughly heated through. The firewood was replenished from time to time. The smoke soon grew very thick, so that no one could stay in the bath-house. Late in the afternoon, when the

stones were well heated, two women went in and cleaned the place thoroughly, removing all the ashes. They brought a big vessel which was filled with water, and placed it near the oven. Slender birch branches were also brought. Finally, the natives told Paulus to prepare for the bath by undressing in his room. It was thirty degrees below zero, but that made little difference to the young Finns.

When the boys were undressed they ran to the bath-house, quickly closing the door after them. Water was taken from the vessel and dashed over the stones from a large dipper ; the steam began to rise ; more water was used, until the place looked like the steam room in a Russian bath. Paulus was so much affected by the steam at first that he had to sit on the floor until he became used to breathing the hot air. The perspiration coursed down his body in streams.

Then the boys fell to switching each other with the birch rods ; more steam was raised, and another switching was indulged in, and then they were all ready to go home.

On the way to the house they all rolled in the snow, and Paulus pronounced it a delightful sensation. He was warned not to

dress until he had stopped perspiring, so he walked up and down in his room for more than an hour before putting on his clothes. He declares that he felt like a new man after this experience.

An oil rub after the bath is very refreshing, and is beneficial to the skin. Massage is necessary to knead in the oil, which should be perfectly sweet. The best quality of olive oil or cocoa butter is excellent for this purpose.

The needle bath is given in a circular cabinet, where there are myriads of tiny pipes, both horizontal and vertical. From these pipes water is thrown against the body in fine sprays, and with considerable force. The temperature is first warm, and then gradually cooled.

The electric light bath is medicinal, and is arranged so that the electric light rays are thrown either on to the whole surface of the body, or a part of it. When the current is turned on, heat and light are produced. These baths are used with great benefit in cases of rheumatism, gout, and various joint affections.

CHAPTER XVI

CARE OF THE HAIR

Growth—Colour—Shampooing—Hair tonic—Lotion for oily hair—Dry Shampoo—Dandruff—Singeing—Curling irons—Superfluous hair—Eyebrows—Eyelashes.

THE care of the hair is of the greatest importance. The condition of the hair is often an index to the state of the general health, its gloss and beauty depending, to a very great measure, upon the bodily condition of its possessor. One of the greatest personal attractions of a girl is beautiful, or more truly, beautifully kept hair.

The hair grows from five to seven inches in a year. It grows faster in the summer than in the winter. Interesting work has been done in counting the number of hairs on a head. One authority has averaged this number as one hundred and twenty

thousand. Naturally, the coarser the hair the fewer there will be, as a rule, to the same area.

It is supposed that black hair and light brown are the coarsest; very light hair, as well as chestnut, is the finest. Red and dark brown come between.

The hair consists of the root, the shaft, and the point. The root is contained in a little bulbous cavity in the scalp called the hair follicle. In this little receptacle the hair is manufactured, and from this little laboratory it pushes out through the surface of the scalp, and continues its growth.

If you take a hair between your fingers and rub it from the point toward the root, you will feel the little barbs, for the outside of the hair is made up of cells which overlap each other like the scales of a pine cone. The central portion of the hair is fibrous, and makes up the larger part. To this is due the elasticity of the hair, the strength, and to a great extent the colour. It has been estimated that one hair will support the weight of about four ounces.

The colour depends upon two factors—pigment and air. The difference in the pigment is

due to the different proportions of the chemicals which compose the colouring matter.

There are many interesting traditions about the sudden blanching of hair, and some well authenticated, in which hair has well-nigh lost its colour within twenty-four hours. There has been much discussion upon this point, and it is very difficult to give a reasonable explanation of the sudden change. In many cases the gradual blanching of the hair is hereditary. It is a natural process, and cannot be retarded. It generally begins at the temples and creeps backward to the crown.

It is always better, even if the hair turns prematurely grey, to allow it to take its own course, and not to try to conceal its natural condition by dye, for many dyes are injurious, and the consequences of their use have been sometimes fatal. But in any case, with the most harmless dyes, the fact is always apparent that the colour is artificial.

Nature, when left to herself, is most apt to follow out the laws of harmony, and she so changes the rest of the face as to harmonise it with the colour of the hair. You have all seen the effect of defying her in her natural processes. You have all seen the face that

would be beautiful framed with its own white hair, but which was startlingly ugly when surmounted by dyed locks.

An incident is told of a lady whose hair was turning grey. She remarked to a friend that she feared it was caused by the essence of rosemary with which her maid was accustomed to wash her hair. The friend replied: "I fear it is much more likely to be due to the essence of time."

Hair never decays; it may last for thousands of years, as is seen in Egyptian mummies. It has a great attraction for water, but this property is counteracted by the oil that is poured out upon it.

Whether hair is straight or curly depends to a great extent upon the shape of its cross-section. The straight hair of the Japanese is cylindrical in contour, and when cut across gives a circular section. The hair of the English-speaking races is oblong, while that of the Negro gives an oval outline. These facts show, then, how impossible it is to make curly hair from straight hair, or straight hair from curly, although various lotions have been made which will keep the hair in curl temporarily by simply stiffening it into shape.

You have often run a hair between the first finger and thumb-nail to see it curl. In doing this you have shortened one side, which causes it to curl toward that side. This is the principle involved in the use of the curling iron. The heat contracts one side of the hair, and consequently causes it to curl toward that side. So it is with any form of curler. The cells of the hair are crowded together on one side, and curl on account of this compression.

A decoction of quince seeds, which is used as a curling lotion, may be made with about three teaspoonfuls of the seeds to a pint of hot water. Pour the water over the seeds, and allow the whole to stand for several hours. This mucilage may be thinned a little with water or cologne, and a few drops of violet or any other essence may be added. Use about two tablespoonfuls of cologne for this mixture. The hair may be moistened with this fluid before curling.

It is said that water in which enough soap has been dissolved to make a lather, and to which have been added a few grains of potassium carbonate to the quart, will make the hair fluffy.

The natural oil from the scalp is furnished

by oil glands, of which there are two or more to each hair. When the scalp is in a healthy condition no other dressing for the hair is necessary.

Shampooing or washing the hair should be repeated as often as is necessary to keep the scalp clean. This may be once a month or twice a week. The following is a good method of washing the hair: First rub tincture of green soap thoroughly into the scalp with the finger-tips, being careful not to scratch the skin with the nails. Add a little water to make a good lather. White Castile soap is very good to use, and its lather should be applied after the green soap.

If your hair is very oily, you may use a few drops of ammonia—more is apt to dry the hair—or you may add a teaspoonful of soda to the first basin of water. The rinsing should be careful and thorough. Use several waters, until the last one is perfectly clear. Dry thoroughly with soft, warm towels; never use Turkish towels for this purpose, as they are too rough, and tend to pull out the hair. Always, if possible, dry in the sun until every vestige of moisture is gone.

The sun gives the hair a sheen that it

obtains in no other way. After drying, the scalp should be well massaged with the finger-tips until the whole head is in a glow. By this procedure the requisites of beauty and health—cleanliness and vigorous circulation—have been fulfilled.

During the whole process it is well to massage the scalp. The polish of the hair is more essential to its beauty than even its texture or colour. When sunshine is not available, you may use fanning as a substitute. The locks should be shaken from time to time during the drying.

In the case of long hair it is well to braid it loosely before washing it, as it is not then so apt to tangle. The sun bath alone, without water, may be used, and will make the hair fresh and sweet. The ventilation of the hair which comes from such treatment is also good. Careful brushing does much to keep the hair in good condition.

If the hair is naturally very dry, it is well, after the shampoo, to have rubbed into the scalp a little bland oil, almond oil, or the oil of benne. This is not to be rubbed through the hair, but into the scalp. The essential point about the oil is that it must be sweet, and not

rancid, because rancid oil acts as an irritant, and even produces diseases of the scalp. This treatment will help to nourish the hair and offset any possible unhappy results of the shampoo. A good hair tonic for rather dry hair is as follows:

Resorcin, one-sixth of a drachm ; castor oil, twelve drachms ; spirit of wine, five ounces ; balsam of Peru, eight grains. This is to be shaken and applied to the scalp every other day.

A lotion for oily hair is as follows :

Witch-hazel, two ounces ; alcohol, two ounces ; distilled water, one ounce ; resorcin, forty grains. Rub this well into the scalp at night.

An egg makes an excellent shampoo, although it is said that the yolk has a tendency to darken light hair.

A simple shampoo is made by dissolving a cake of pure Castile soap in a quart of boiling water. This makes really a soap-jelly, which may be used to rub into the scalp when washing the hair.

If your scalp is tender, do not use a shampoo containing ammonia, soda, or borax, as they are irritating to tender scalps. Beat the

yolk of one egg with an ounce of spirit of rosemary into one pint of hot rain water. Use while warm.

If your hair is inclined to be dry, avoid too frequent shampooing. You can remove the soil of an average day's exposure by wiping the hair with a towel or running a soft brush through it.

Now and then you may need to use a dry shampoo. Part the hair in different places, and shake on to the scalp powdered orris root or plain talcum powder. If this is allowed to remain for a short time, and is then thoroughly shaken out of the hair, it will help to clean it by absorbing the oil. But it will not do to repeat this too often, as it is not as thorough as the ordinary washing of the hair.

As to brushes, and combs, and hairpins—the brush should not be too stiff, although it should have bristles of good quality. The wire brush must be avoided. The proper comb is coarse, with smooth, round teeth, and with round edges where the teeth join the back. Sharp and angular teeth break the hair and injure the scalp. Fine combs should never be used.

Select your hairpins with great care, and never use those that are broken or those that have roughened edges. Run them through your fingers in order to detect imperfections. Celluloid hairpins or ornaments are very dangerous, as they not infrequently explode when brought near a flame.

Be careful about the use of hatpins. They often injure the scalp by scratching it or pressing into it.

The brush and comb should be cleaned once a week, by shaking in hot water in which there is a little ammonia. The comb should be carefully wiped between the teeth. The brush should be shaken through the water, being held parallel with the surface of the water. If the bristles are wiped when they are wet, they will dry soft. After rinsing, dry thoroughly in the sun, with the brush standing on its bristles; otherwise the water will soak into the back and ruin it.

After the brush and comb have been washed, and before they are dried, they should be sterilised. A shallow dish is most convenient for this purpose; into it enough formalin may be put to about cover the bristles of the brush. This solution must

be used with care. A perfectly harmless liquid is a four per cent. solution of boric acid, in which the brush and comb may be laid for ten or fifteen minutes.

Be most particular never to use the comb and brush belonging to anyone but yourself.

Many causes have been suggested for dandruff, and much study has been given to this subject. A great number of cases of falling hair are caused by this trouble, which is undoubtedly due to micro-organisms. Several striking instances of contagion of this disease have been cited by specialists. The patient should always be told of the possibility of reinfection, for this disease may be carried by hairpins, combs, brushes, hats, sofa pillows, etc.

Its correct treatment will depend upon the particular form of this disease, for no two cases should be treated exactly alike. General suggestions, however, may be given. The scalp should first be cleansed, and, as in washing the hair, tincture of green soap is an excellent preparation to use. The only trouble about its use is that it is difficult to get a pure article.

For very dry hair, sodium iodide of sulphur

soap, manufactured in Germany, has proved excellent, and in the case of oily hair, a pure white soap gives good results. Reinfection should be prevented.

As to the loss of hair after a fever, dandruff has frequently caused it. The shaving of the head after a fever is to be strongly condemned. The hair is apt to fall out when the nervous system is affected, for when the mind and body are healthy, the scalp is generally in good condition.

The Blue - Coat School boys in London prove to be remarkably free from premature baldness.

Light is a natural stimulus to the hair. Pressure on the head from any source hinders the circulation. Pressure of the hands while supporting the head in study is bad.

An old time dandruff remedy is :

Bay rum, five ounces; tincture of cantharides, one ounce; olive oil, one ounce.

At night the hair should be carefully smoothed out and braided in two braids. It is well to change the position of the hair at night from its arrangement in the daytime, and it is a good plan to change the style of arranging the hair from time to time, so that

one part of the head need not continuously bear the strain and weight of the hair. Do not keep the parting in the same place all the time, but shift it about, as that will prevent it from growing broad.

The popular idea of singeing the hair because, as it is wrongly said, each hair is hollow, and so, when split or broken, bleeds at the end, is a fallacy. If the hair is inclined to split, the ends should be carefully clipped. This will help to stop the splitting, but it should never be singed.

Hair should be treated very carefully. In combing your hair, never pull it roughly or rake out the tangles. If the hair is fine and tangles easily, take time enough to separate the knots with your fingers. If you grasp the comb between the thumb and the first two fingers, and carefully draw it down the length of the hair, you cannot exert enough force to do harm, and two or three gentle efforts of this kind will generally disentangle most of the knots, without pulling out the hair, as is often done by rough treatment. And if you value the beauty of your hair, as before advised, never use a wire brush, as this breaks the hair and pulls it out.

The idea that the hair must be brushed a certain number of times—forty, or fifty, or a hundred, as I have heard girls insist was necessary in order to keep it in good condition—is a foolish one. Brushing distributes the natural oil which comes from the scalp down over the hair, and very gentle manipulation with a few strokes of the brush is all that is necessary to accomplish this. Massage of the scalp is treated in the chapter on massage.

In arranging the hair, never use false hair of any kind, because it will necessarily overheat the scalp, and injure the growth of the hair. Never tangle the hair by combing it the wrong way in order to make the pompadour stand-up. This also is injurious, as the hair is much more apt to be broken off when combed.

Incessant use of the curling irons is most injurious, as it takes the life out of the hair, and splits the ends. If you roll the hair in any way, do it loosely, as it is injurious to draw it too tightly from the head.

Superfluous hair, to a greater or less degree, is most annoying to girls. If the hair is

dark, it can be made quite inconspicuous by the use of hydrogen peroxide. The spots where the hair grows should first be cleansed with hot water and soap and a little ammonia, in order to take off all the natural oil, as this hinders the action of the peroxide. After the washing, the hydrogen peroxide is applied with a soft cloth. It will not destroy the hair, but it will make it far less noticeable. In order to entirely remove superfluous hair, electrolysis is the only sure and permanent method; for depilatories, when strong enough to kill the hair, certainly are too strong to apply to the skin without great risk of injury.

Electrolysis consists in putting the electric needle down into the hair follicle in order to destroy it.

This treatment, if in the hands of an expert physician, will accomplish excellent results at once, with very little discomfort.

Look at your eyebrows, and you will see that the upper hairs stand downward, while the lower hairs have an upward slant. They have been compared to sheaves of corn standing up against each other. Now look at the eyelashes, and you will see that they

are in distinct rows on the edges of the lids. Sometimes you may find as many as four.

In the case of eyebrows that are shaggy, or that grow the wrong way, much may be done to train them. In making the toilet, they should be gently combed into shape. This will make a great difference, especially with eyebrows that are heavy. If they persistently grow in the wrong way, a little decoction of quince seed may be used at night to paste them down into the normal curve. The very expression of the face may be changed by the shape of the eyebrow. A delicate, curved eyebrow is a beauty.

The oil glands attached to the eyelashes are generous in size, and their secretions prevent the lids from sticking together. They also keep the tears, unless they are formed in great abundance, from overflowing the lids.

Be careful in wearing glasses not to jam the eyelashes up against them, for this will stunt them and spoil their shape.

The hairs in the nose serve the purpose of a sieve in purifying the air we breathe; together with the warm lining of the nose, they cleanse and warm the air before it reaches the lungs.

CHAPTER XVII

CARE OF EYES, NOSE, AND EARS

Eye strain—Foreign body in eye—Attitude for work—Exercises—Hygienic precautions—Shaping the nose—Toilet of the nose—Care of the ear—Noises in the ear.

THE eye is perhaps the most expressive feature of the face. No care that you can expend upon any part of the body will give you greater return in beauty and health than that devoted to this organ.

Have you ever thought what a blessing it is that you have two eyes, so, if one is injured, or the sight of it is lost, you still have the other to depend upon? Of course, the sight of one eye only is not equal to that of two, because the field of view of objects on the blind side is limited by the body of the nose, and because with both eyes we see objects in their proper relations to each other as in a stereoscope.

There is no organ that is more abused than the eye. How many of you really take good care of them? In any trouble with the eyes, never go to an optician for treatment. This is the province of the oculist.

If your eyes are perfectly healthy, it is not necessary to bathe them continually. I am often asked which is better, cold water or hot water, for this purpose. If either is necessary, it is better to consult an oculist.

In any inflammation of the eye which comes on suddenly, cold water retards and soothes it; but after the trouble has continued for some time, very hot water will relieve the pain and reduce the swelling. If you feel that you must bathe the eye, the most convenient method is to use a little eye cup. This has an oval mouth which fits round the eye, at the margin of the orbit. The eye can then be opened into the lotion, whatever this may be, and winked. A weak solution of boracic acid, say three per cent., may be used safely. This must be fresh and clear, however, but the tears are the natural method of cleansing this organ.

One important point to remember is to change the accommodation of the eye from

time to time, especially if your work is close and confining. This means simply looking out of the window. It rests the mind as well.

The Indians are noted for their fine range of vision. It is because they use their eyes both for close work, such as basket-weaving and bead-stringing, and also for gazing about long stretches of country, as they roam from place to place.

There are two sets of muscular fibres which dilate and contract the pupil. One set is arranged in circles round it; the other set radiates like the spokes of a wheel outward from the pupil.

The first set may be compared to a string which draws the mouth of a bag together. The other set draws the iris (the coloured part of the eye) from the centre, and thus enlarges the pupil.

When it becomes necessary to wear glasses, there should be no hesitation in assuming them. One of the symptoms of eye strain is watering of the eyes. If your eyes water easily, it is probable either that they are weak, or that there is some trouble existing with the tear duct.

Again, in eye strain the lids sometimes

twitch, or they may be very sensitive to light, or letters may become indistinct after a few moments' reading. There are many other symptoms of eye strain, one of which is sick headache.

Some girls are troubled with dark spots dancing before the eyes. Sometimes these indicate an internal derangement. Sometimes they are the result of extreme nervousness, but they are often present in healthy eyes.

The state of the general circulation may be judged by the appearance of the eyelids. The dark rings round the eyes, as referred to before, indicate sluggish circulation, or even blood changes. Swelling or puffiness under the eyes, the so-called "bags," are often the sign of some internal disorder. It is not uncommon to notice that the edges of the lids are red, or that there are little scales at the root of the lashes. This may mean that you have used the eyes too much, or have not slept enough, or it is often a sign that the eyes are strained, and need glasses.

The eyebrows and lashes are both a great protection to the eye, the former preventing perspiration from rolling off the forehead, and the lashes forming a screen of protection from

floating particles of dust. After a bruise, the "black eye" shows that the blood has poured out into the loose tissues of the lid. Immediately after the discoloration begins, it is well to apply ice-cold compresses to prevent further escape of blood from the vessels. When the trouble has existed for several days, heated compresses will help the absorption of the haemorrhage.

To remove anything from the lower lid it should be pulled down, the eye should look down toward the floor and slightly toward the nose. If nothing is found in this part, the upper lid can be turned back, and search made here. Take the tiny corner of a linen handkerchief and gently lift the particle from the eye. Or a very simple method is to grasp the eyelashes of the upper lid between the finger and thumb, and gently pull the lid down over the lashes of the lower lid. In this way the lashes of the lower lid sweep the upper lid, and so dispose of the cinder or particle of dust. The use of the eye cup and boracic acid may be very helpful.

If you rub the eye, always rub toward the nose, never toward the temple; and you should be careful about rubbing the eye at

all; it is a bad habit. From this, inflammation sometimes follows, which may lead to injury of the sight.

The attitude while working is of great importance to the eyes. The head should be kept as erect as possible. Stooping is very bad for the eyes. Fine needlework is also very trying, and reading while riding either in a train or carriage may be harmful, for the constant movement of the book or paper calls for a continual change of focus, and so increases strain.

You should apply the same principles of rest to the eye which you use for other parts of the body. If your work is close during the day, rest your eyes at night; but if your work has been "far distance" work, you can read during the evening.

Remember that the general health has much to do with the eyes. One reacts upon the other; the eyes and the general constitution.

The foolish practice in which some girls indulge of applying belladonna to the eyes in order to stimulate their brilliancy is most pernicious.

A certain set of exercises are suggested for

the eyes, and are said to strengthen them. They consist in slowly turning the eyes upward and downward, from right to left, as far as possible, and from one corner of the orbit to the other. Then alternate the motions.

The eyes are then rolled round, first to the right, and then to the left. In going through these athletics for the eyes, the muscles should not be strained.

An excellent movement to keep the ball of the eye round is to gently rub it toward the centre with the tip of the thumb and forefinger on either side. But if any of these manipulations make the eye in the least red or sensitive, it is better to avoid them.

Of course, you know that in writing the light should always fall over your left shoulder, because of the shadow otherwise cast by the hand or the pencil. It is never well to let light shine on the eyes from above. At night you may shield them with a shade. There is no better headgear for summer than the picturesque sun-bonnet.

It is not advantageous to work in a subdued light, though many girls believe this to be true. The best light for most work is

daylight, but when artificial light must be used, it should be steady and bright enough to illuminate the work we have to do, without dazzling the eyes or overheating the room.

As to the kind of light in use, paraffin is largely employed in country districts. The lamp has now been brought to such a stage of perfection that when it is shaded by a slightly bluish or green shade its illumination is very satisfactory.

The gas we usually find in cities has such an excess of yellow rays that it is apt to try the eyes. The Argand burner is very good, but hot. The incandescent mantle so largely used in these days is a wonderful improvement in gas lighting. It should be carefully shaded.

Any light that flickers, such as candle light, is very bad for the eyes. Electricity will, undoubtedly, in time become the general means of illuminating.

Even the window shades in the room where we use our eyes have an influence upon them. The best colours for these shades are dull or neutral tones. It is much better to have two at each window, so that either the upper or

lower part, or even both, may be shaded as you wish.

A well-known oculist sums up as follows the necessary hygienic precautions in reading: The type should be of good size, well spaced, on unglazed paper, and in short columns. The light should be sufficient, the position of the reader should be upright, leaning slightly backward, with head erect, and the book held nearly on a level with the eyes. If it is very heavy, it should be supported on a rest. The closer an object is held to the eyes, the greater is the muscular and accommodative strain.

The ordinary distance of the type from the eye for reading is about fourteen inches. You should never read type, however, that you cannot clearly see at twenty inches. The oft-heard warning against reading when lying down is because correct position and arrangement of light are so frequently disregarded.

Reading when lying down is bad, unless the head and shoulders are supported, and the same precautions taken concerning light that are observed in the erect posture.

Continual looking upward is as fatiguing as reading when lying flat on the back.

Veils, if worn at all, should be thin, with a very large mesh. Very thick veils or dotted veils are bad for the eyes.

Here is an ancient rhyme about the eye, which we find quoted in a recent book on beauty :

THINGS HURTFUL TO THE SIGHT.

“Much bathing, blust’ring winds, and wine
And wounds, or any serious blows, in fine,
With lentils, pepper, mustard, also beans,
Garlic and onions—by such hurtful means,
With too much labour amid dust and smoke,
Weeping or watching fires, we thus invoke,
With long exposure to the noonday sun,
The direst wrongs that can to sight be done ;
But vigils are, by far, more noxious still
Than any form of single-mentioned ill.”

The Care of the Nose

Perhaps we have less to do with the appearance of the nose than with that of any other feature. However, during the years of growth the shape of the nose can be moulded at will to a very considerable extent.

In adult life much can be done to give the nose a fine outline at the tip. Wiping the nose on one side with a handkerchief over the

finger is very detrimental to the fine lines of the nostril. The nostril is easily stretched out of shape. It will recover its natural lines to some extent with appropriate treatment. If there is serious deformity, the treatment then becomes a surgical operation.

The same advice may be given in the case of the nose as is given in relation to the ear. Let it alone. Unless you have special directions from a nose specialist you should never douche the nose in any way. The mucous membrane of the nose was not made for water.

When in a normal condition it would scarcely need the use of a handkerchief, but in our climate there is such a tendency to catarrh that handkerchiefs are necessary.

There is a pretty little tradition that the handkerchief was never in evidence among polite people, until one of the French queens became afflicted with catarrh. Since that time its ordinary use has been considered proper.

However, the toilet of the nose, as far as possible, should always be carefully performed in private. Carelessness in this regard is a most disagreeable habit, and great attention should be paid to this detail. It is well to

blow the nose on waking, as a routine measure; but hard blowing of the nose is never good, and is sometimes very detrimental.

If you are troubled in any way with obstruction to breathing, go at once to a nose specialist, and let him give the proper treatment. Such affections often lead to serious results.

The Care of the Ear

I can't think of any better advice with regard to your ears than to say, the less you do to them the better.

If you feel in any way that they are not in good condition, instead of experimenting with them yourself, you should go at once to an aurist. Such habits as picking at the ear with hairpins, or washing them out, or putting anything into them, as sweet oil, or doctoring them for earache at home, are all too dangerous to be indulged in.

If, however, you are not where you can consult a doctor, and an insect should crawl into your ear, the best way to get rid of it is to fill the ear with oil. The insect will then generally back out, though a syringe full of water may be necessary to wash him out.

If you know that you are going to hear a very loud sound, it is well to open the mouth, as the shock will then be neutralised.

If you have earache, it is always wise to consult an aurist. Rest in bed, with a light diet, generally brings comfort in this trouble.

Noises in the ears are most annoying, and sometimes resist all treatment. They are often associated with deafness, and should therefore receive due attention.

Some girls have a practice of wearing bits of cotton in the ear. This is bad. Of course, there are certain cases in which the ear is very sensitive to cold ; it might then be allowed, if one were to be exposed for several hours, but the constant habit of thus protecting the ear is a bad one.

The opening of the ear varies widely in different people. The wider the opening, naturally the greater the sensitiveness of the ear to cold. Even a thin veil is a great protection in such cases. The ear can be carefully wiped out when it is washed with the tip of the little finger covered with a soft handkerchief. No water should be allowed to get into it. This process will do no harm, and will keep that part of the ear clean.

CHAPTER XVIII

CARE OF THE MOUTH AND TEETH

Biting lips—Lip cream—Care of teeth—Diet—Tooth powder—Injurious medicines—The breath—Mouth breathing—The voice—Purity of speech—Lip exercises.

THE mouth forms an important part of the expression of the face. The muscles of the mouth are like those of the rest of the body, moulded by habit. The habit of amiability and contentment gives to the mouth its greatest charm. No artificial tint can add beauty to this feature. Like all other artifices, it can always be detected, and makes the face coarse. It also makes the mouth appear broader, and injures the texture of the lips.

The bad habit so many girls have of biting their lips to make them red thickens them, and dries them so that they become chapped and colourless, and lose their delicate curves.

The formula for a dainty cream to use on dry and cracked lips is: Almond oil, one-eighth pound; white wax, one-half ounce; spermaceti, one-half ounce; oil of bitter almonds, one-twelfth drachm; oil of geranium, one-eighth drachm. These ingredients are to be well mixed, and the cream may be applied whenever the lips require it.

Nothing adds more to the beauty of the mouth than well-cared-for teeth. Their good condition has much to do with the state of the general health, for without thorough mastication of food perfect health is impossible. The care of the teeth should begin with the first set.

The teeth should be examined not less than twice a year by a competent dentist.

They should be washed with lukewarm water before breakfast, after each meal, and before retiring. There are so many excellent dentifrices that it is hard to decide which is best. It is a good plan to ask your dentist's advice, as he is well acquainted with the character of your teeth.

Precipitated chalk is always good, and may be rubbed about the gums after eating anything acid, and also before retiring. It

will relieve the sensitiveness of the teeth which is so common at the margin of the gums.

An antiseptic is also indispensable. It helps to preserve the teeth, and also keeps the breath sweet. Peroxide of hydrogen is a good antiseptic mouth wash. It also bleaches yellow teeth and whitens them. Dilute alcohol is a refreshing antiseptic for the mouth. Powdered pumice stone used once in a while is excellent for removing stains.

An extremely important item in the care of the teeth is the use of dental floss after eating. This, together with a soft orange wood or quill toothpick, will remove every particle of food from the teeth.

Use a brush with bristles that are neither too stiff nor too soft, and brush the teeth on all sides, the inside as well as the outside, and do not neglect the flat crowns of the back teeth, for there are many crevices there where food may lodge. The brush is also useful in stimulating the circulation of the gums, but it needs gentle handling. It is better to brush the teeth downward from the gums than crosswise along the line of the gums.

A mouthful of milk of magnesia taken

every night before retiring, allowing it to penetrate into every nook and cranny of the mouth, will correct any tendency to acidity, and prevent the decay which comes from chemical decomposition.

A noted medical writer advises an occasional cleaning of the teeth with common salt. The gums should also be rubbed. Do not allow tartar to accumulate upon the teeth, as its effects are disastrous.

Diet has an important bearing on the condition of the teeth. If gluten flour were substituted for the fine white flour in common use, dentists would fare badly. Coarse breads might well replace the ordinary white bread of daily use.

Lime water—a tablespoonful in a glass of milk or water—contributes to the strength of the teeth.

Avoid exposing the teeth to extremes of temperature. Very hot and very cold substances have a tendency to crack the enamel. Never use a metal instrument of any kind in the mouth, and neither bite thread nor crack nuts with the teeth.

A good and simple formula for tooth powder is made of equal parts of precipitated

chalk and powdered orris root. To this may be added any flavouring essence that may be desired.

A bit of orris root chewed in the mouth will impart a very delicate fragrance to the breath.

Medicines that injure the teeth are the liquid preparations of iron and the mineral acids. Such medicines should always be taken through a glass tube. They should also be diluted, for when they are strong enough to injure the teeth they will also injure the stomach. Too strong acids should be avoided. The reason that sweets are injurious to the teeth is on account of the fermentation they cause. When these substances lodge between the teeth the heat of the mouth acts upon them.

It is well, especially in the morning, to gently wipe the tongue with a damp cloth or soft tooth brush, as the cavity of the mouth harbours many microbes and impurities.

The Breath

It is a great trial to a girl to realise that her breath is unpleasant. It is, perhaps, a greater trial to others, when they realise the fact and she doesn't. In health, the breath is

nearly odourless, but there is a slight sweet odour about the skin margin round the nostrils. Each person has a characteristic nasal odour. The more refined the person, and the higher in the scale of civilisation, the more delicate is the odour.

Offensive breath is merely a symptom, however extreme it may be. It may occur at any time of life. It is present under many different circumstances.

The odour of the breath is temporarily modified by many causes. Mental emotion often exerts a marked influence upon it. This is not strange, for mental disturbance may prevent the normal elimination of waste products, so that an extra burden is thrown on to the lungs, with resulting foul breath.

As a rule, the person who has unpleasant breath is conscious of its presence. When caused by emotion there is generally a pasty taste in the mouth also. Such girls are commonly highly-strung and nervous.

Sick headache is often accompanied by bad breath.

Perhaps the most frequent cause of impure breath is dyspepsia, either gastric or intestinal. The hurry, worry, and excitement

characteristic of this age are greatly to blame for this condition.

Overwork, sedentary habits, and the habit of "bolting" food all have a tendency to cause this disturbance.

In chronic constipation the odour of decomposing organic matter is very marked.

There are certain local causes for this affliction — affections of the mouth, nose, throat, and lungs.

Decayed teeth also give rise to foul breath. It is not the decay alone to which the odour is due ; the decomposition of food which is left in the cavities, and between the teeth, is the chief cause.

Tartar and certain microbes found in the mouth are sometimes the cause of unpleasant breath.

You can see that, even though your teeth may be perfectly sound, there is great necessity for carefully cleaning them.

Mouth breathers, whose nostrils are not well open, often suffer from bad breath.

Sometimes this trouble exists when no cause can be found for it.

In treating it, the cause must first be discovered, if possible, and removed. If the

gums are spongy or receding, a tooth wash containing myrrh is helpful. The best care should be taken of the teeth. If the stomach is at fault, apart from special treatment, a bit of charcoal may be taken soon after meals. An excellent mouth-wash is: Thymol, seven and a half grains; borax, fifteen grains; distilled water, one pint. The mouth is to be rinsed frequently with this solution.

Mouth Breathing

Did you ever stop to think how you breathe? Do you know that, as a rule, we are actually too lazy to breathe properly? Well, we are; and so we do much to impair the beauty of both form and figure.

Have you not often noticed the ugly mouth breather? This habit of breathing through the mouth is unattractive enough in children, but even more so in girls.

It was one of the trials of my youthful days, when I was out walking in the evening with my father, to hear him say, as he always did when I began to talk: "Keep your mouth shut in the night air!" I have often thanked him for it since from the bottom of my heart.

Nose breathing and deep breathing are important and magical aids to health and beauty. There is a little volume entitled: "*Shut your Mouth and Save your Life.*" Rather startling, isn't it? But it is true, as startling things often are.

"Breathe through your nose, and keep your hearing till you die."

The deformity of the whole face resulting from habitual mouth breathing can be prevented by appropriate medical care in childhood.

Nasal breathing is the best preventive of colds in the head (the nose strains out the bacteria from the air).

Deep nose breathing should be practised when in the open air, and the purer and clearer the air, the more deeply you should breathe. Try this, and it will become a pleasant pastime, and its results will become apparent in your straighter shoulders, better developed chest, clearer skin, and sweeter breath.

It is really better than the magic youth restorers of the shops. It is truly the best "elixir of life" that we can use, while it will not encroach upon the purse. Give it a fair trial, and see how easy the habit becomes.

The Voice

The rasping nasal tone of some voices is often due to catarrhal trouble. This is caused by our climate, with its sudden changes of temperature. It is especially noticeable in the inhabitants of northern counties.

Some little English girls, who were living in Paris in order to acquire the French language, were not allowed to play with children who spoke English. One day after their outing, they announced with great glee to their mother that they had had such a beautiful time playing with some little girls whom they met in the Park. "Did they speak French?" asked the mother. "No," said the children. "Did they speak English?" she asked. "No, mamma," said the children; "they didn't speak English at all—they spoke Auntie Tobey's language." Need I tell you that "Auntie Tobey" was an American?

It has been well said that, in the treatment of the defective voice, the first consideration is the general health. The girl who wishes to cultivate her voice, and make it soft, sweet, and low, must pay proper attention to diet, bathing, clothing, exercise, and rest.

Have you ever tried to detect the difference in the tones of your voice when you were feeling well and when you were feeling ill?

The voice is an excellent index to the state of both health and spirits. It is almost impossible, unless a special effort is made, to speak in a generally cheerful tone when you are feeling depressed or ill. The voice naturally falls into a minor key, and expresses itself in plaintive tones.

Perhaps the most essential factors in the attainment of a beautiful voice are proper breathing and carriage. The clothing must not be tight, or the breathing cannot be normal.

It is said that the resonant quality which gives richness to the tones of the voice comes only from diaphragmatic or deep breathing, and one of the claims for deep breathing is the production of a beautiful voice. Through proper breathing is the throat relaxed, thus leaving the vocal cords free to do their best work unobstructed.

No voice in itself is harsh; the quality of the voice depends upon the management of it.

A beautiful voice is always even in tone, whether low and modulated, or loud and strong.

One of our great singers says that the work with a pupil's voice begins with her feet. In other words, she must have a correct poise, for proper carriage is essential to normal breathing, and so to pure tone. After poise is attained, try always to speak on a full breath. You will notice the difference between the tone produced upon a full breath and that which is given out on an insufficient amount.

Apart from imperfect tones, there are various faults of speech which are commonly heard. It is a good plan to listen to a number of girls talking at the same time. Notice them at an afternoon tea. Most of the voices at such a gathering are shrill, high-pitched, and strained. The utterance is rapid, the words are clipped, the pronunciation is often otherwise faulty.

There is a slovenliness about the enunciation which is very marked. Slang, too, and extravagance in speech are common. Girls who are a little hungry are "starved almost to death." Other girls are "horribly glad"; again, some are "hideously tired."

Drop slang, drop provincialisms and mispronunciations.

It is not necessary to be affected in order to obtain purity of speech, but it is one of the great, and, alas! unusual attractions of the well-bred woman. There are some people who judge a woman almost entirely by her voice, and indeed, it is an excellent index to character and breeding.

There is a reaction between the voice and the spirit. If the voice is kept well modulated, it will have a beneficial effect upon the disposition.

In an interesting contest in which several girls of different nationalities took part, each in turn spoke into a phonograph. By this means the voices were to be judged.

The English girl was awarded the first prize, the Russian came next and received the second prize. The French and Italian girls both received honourable mention. The American girl had to be content with a consolation prize.

Even in early times, the Athenians formed classes for the cultivation of the voice.

It is necessary that the lips be mobile and flexible in order to form a tone correctly. A very simple set of exercises for the lips is the pronunciation of the vowel sounds, "ah-oh,"

“ah-oh-ee,” “ah-oh-ee-oo.” These exercises should be enunciated ten times each, and they should be practised at least ten times a day.

They not only make the lips facile, but they also exercise the muscles of the lower part of the face. Beauty of voice and mouth are gained through these lip exercises.

An excellent practice sentence given at one of our famous schools for voice culture is: “Most men want poise and more royal margin.”

The French have a far keener appreciation of the importance of such practice than we have. Those on the French stage use numerous exercises to increase the nimbleness of the tongue and the mobility of the lips.

One of our beautiful singers has said that “the vocal instrument is like an organ, the diaphragm, while inhaling and exhaling, acting as the bellows, the throat doing service as the pipes through which the air is carried to the resonators, while the tip of the tongue and the lips, in enunciation, may be likened to the keys with which the tones are produced. With her respiration natural and noiseless, every woman has a perfect and tuneful instrument at her command.

CHAPTER XIX

CARE OF THE HAND AND FOOT

Ill-treatment of the hand—Exercises—Stains—Odours
—Chapped hands—Care of the nails—Care of the
foot—Corns—Chilblains—Bathing—Cold feet.

Care of the Hand

EVEN if your hands are not naturally beautiful, you can do a great deal towards making them pretty by proper care. This does not mean that you should never use them, for our hands were made to serve us, and they are one of the distinguishing marks between the higher and the lower animals.

Girls sometimes abuse the joints of their fingers by pulling them out and cracking them. They sometimes show you with great glee how “double-jointed” they are, and pull and twist the delicate fingers into all sorts of contortions. The effects of such foolish practices are lasting. If you persist in them,

you will soon observe that your fingers are no longer slender and pretty, but misshapen and ugly.

Another foolish habit that some girls have is to keep the hands continually in motion. Fussing with your hair, or your collar, or your belt will soon grow to be second nature, if you allow yourself to indulge in it. Drumming with the fingers on a table, or on the arm of your chair, is most disagreeable to those about you.

And remember never to handle things which are intended only to be looked at, especially delicate needlework or fine china, or anything that may be injured by handling or dropping. It is the first instinct, and a great temptation when you are looking at anything, to put your hands on it, but remember—don't!

A very simple but excellent exercise for the fingers is to move them just as if you were trying to spin a ball.

Piano-playing is fine exercise for the muscles of the whole hand. The skilfulness of the hand is well developed by writing.

When you wash your hands, do so thoroughly; do not dab them into water and out again, merely grinding the dirt into them. When

you wipe them, do so carefully and thoroughly. It is from careless wiping that one gets chapped hands.

Never expose your hands to extremes of temperature. Neither very cold nor very hot water is good for them. Use warm water, and be sure that it is soft. If you cannot get rain water, and the tap water is hard, put a few drops of ammonia, or a pinch of borax, into it. This will soften it.

Do not use a cheap soap on your hands any more than you would on your face. Lather your hands well with the soap and warm water, and if a brush is necessary to cleanse the nails, it may be used. Rinse thoroughly in clean water, and partly dry with a soft towel, which easily absorbs the moisture. Then rub a few drops of glycerine and rose water thoroughly into your hands, and complete the drying.

In winter, it is a wise precaution to powder the hands after washing them. Use any good face powder. Simple talcum powder is good, or a powder made of prepared chalk, seventy-five parts; zinc oxide, twenty-five parts. A little bran or oatmeal, if put into the water, has a softening effect, and makes the skin velvety

and pliable. Almond meal is also excellent for this purpose.

For removing ink stains from the fingers, dip a sulphur match into the water and rub it on the stain. This is very efficient. Or lemon juice and salt may be used. Peroxide of hydrogen, with a few drops of ammonia, is very good for removing stains from the hands. Pumice-stone, too, is valuable. It is useful in the smoothing of a finger roughened with sewing. After using this rub on a little cold cream.

When the hands are shrunken from long soaking in water, dipping them into vinegar, or pouring it over the hands, will restore them to their natural colour.

If the finger-tips are stained by berries, hold them in the fumes of a sulphur match, and the stains will disappear.

The unpleasant odour that clings to the hands after handling onions, or codfish, or the like, may be dissipated by rubbing dry mustard over them; or put the hands into water containing mustard.

Chamois gloves afford great protection if you do housework, especially in winter, but it is well not to wear them too long at a time, as they are apt to draw the hands.

If your hands become very much chapped and red you can rub them with a good cold cream at night, after washing them thoroughly, and then draw on loose white gloves with the finger-tips clipped off.

Be careful not to wear gloves that are too tight, for they ruin the beauty of the hands by hindering the circulation. You cannot pay too much attention to your hands and to your gloves. They are a telling index to the character of their possessor.

Perhaps nothing adds to the appearance of the hands more than the condition of the nails. These should be most carefully attended to. They, too, like the hand in general, are very indicative of abnormal states of the body.

It is well known that illness has a decided effect on the growth of the nails. Sometimes ridges which are quite prominent develop during an illness.

Many girls are much disturbed about the tiny white spots which sometimes appear on the surface of the nails. These are often due to injury, and I have noticed that girls who carefully press away the skin from the root of a nail with a steel nail-file are very much annoyed with these blemishes. After ceasing

this treatment the spots have gradually disappeared.

It cannot be said, however, that injury is always the cause of these little marks. But if you are troubled with them, I would advise you to be careful not to bruise the nails in any way. I would never advise the use of the nail-file for any purpose but that of filing the nail. Never use it for cleaning, but substitute an orange stick or a soft wooden toothpick.



FIG. 21.—Manicure set.

Use this also for pushing the skin away from the root.

If you are troubled by the skin adhering to the nail, or if your nails are brittle, make a practice of rubbing vaseline, or a good cold cream or cocoa butter, into the nails all about the roots. Do this every night, and in a few weeks you will see an improvement. In this way agnails, improperly called hangnails, may be prevented.

The nails should be manicured once every week, but you can easily train yourself to be your own manicure. You do not need a variety of instruments: A nail-file, a pair of curved nail-scissors, an orange stick, a chamois polisher, and a little box of nail-powder are the essentials of a manicure set.

First dip your fingers into warm, soapy, soft water. It is well to pour a few drops of cologne or aromatic vinegar, or compound tincture of benzoin, into the bowl. After a few minutes, when the nails are softened, file the tips into a curve so that the whole nail will approach the shape of an almond as nearly as possible.

After the filing, the soft stick should be used for gently pressing the scarf skin away from the "half-moon," and every little point where the skin is attached should be gently loosened in order that the nail may have its normal room for growth.

After the nails are thus put into good condition, they should be carefully dried, and plain vaseline rubbed thoroughly into them before the powder is applied. Then polish them with the chamois, being careful not to heat the nails with friction. Rinse

the nails once more, dry and rub them finally with a little fine powder.

The Care of the Foot

A pretty foot is one of the greatest attractions a girl can have.

The foot, like the hand, is flexible, mobile, elastic, and sensitive to touch. Perhaps its most important characteristic is its elasticity. This is due to a certain extent to the number of bones and joints which compose it, but in great measure to its arched construction.

I once asked a girl what she would like to find if she took up an article on the foot. She promptly replied: "I would like to read all about corns, for they are the torment of my life." The ancients used often to hit upon very appropriate terms, and they certainly did in the matter of corns, which they called "clavus," meaning a nail.

You all know what a corn looks like—an inverted cone, with the apex pointing inward. This point presses upon the nerves, and thus the pain is caused. It is well known that persons afflicted with these growths can often rely upon their feet to foretell an approaching storm, as if they were barometers. This is

due probably to the increased sensitiveness of the nerves in humid weather, for the atmospheric pressure is low when the humidity is high, and this permits an increased pressure of blood in the skin, which compresses the ends of the nerves.

Corns are most often found on the upper surface of the toes, but also occur on the bottom of the feet and between the toes. In the latter case, they are called "soft corns," and this variety is frequently especially painful.

The corn should be relieved from all pressure. For this purpose the perforated corn-plasters may be used, or a disk of white kid or chamois with a hole in the centre. The feet may be soaked in hot water and the corn picked out, but no instrument should be used which has not been boiled. A good lotion for corns is composed of salicylic acid and collodion. Soft corns should be protected by a bit of linen placed between the toes. Sprinkle the linen with powdered alum or tannin.

Painful corns on the bottom of the foot may be treated by putting several layers of adhesive plaster in a kind of cushion over

the corn. This device keeps the corn protected from friction, and it will gradually disappear.

Bunions are the result of great pressure and friction on the joint, most frequently the large one of the great toe. If not attended to, this inflammation may even lead to destruction of the bone, for which a surgical operation is necessary.

The joint should be relieved of all pressure. If possible, a loose slipper should be worn till the inflammation has subsided. The bunion can be protected, like a corn, with a kid disk.

A good lotion to use is carbolic acid, tincture of iodine and glycerine, two drachms of each. This is applied with a camel's - hair pencil every day.

Callosities of the sole and heel are often very painful, and sometimes actually cripple the sufferer. Frequent bathing and rubbing often suffice to keep these formations from being troublesome. A smooth piece of pumice-stone or a file may be used to shave off the thickened skin. Before applying either of these remedies, it is well to rub the spot with cold cream.

The nails of the foot should be kept as dainty as those of the hand.

Ingrowing nails come from ill-fitting shoes. They are most painful, and may become so serious as to prevent walking. This affection may require surgical interference. Before reaching this stage, it is well to cut the nail short and square across, or slightly concave. The painful point may be lifted up by a tiny pledge of cotton ; or, if the neighbouring toes press against each other painfully, they may be held in place and the pressure relieved by a band of adhesive plaster.

Chilblains occur especially upon the hands and feet, and most often affect anæmic girls. As you know, the suffering from them is sometimes intense. They may often be cured by wearing cotton stockings all the year round. If the exposure to cold has been severe enough to cause frost-bite, warmth should be slowly restored by rubbing the part with cold water or snow. If there is a tendency to this trouble every winter, the general health should be built up, warm clothing worn, and the circulation stimulated with alcohol rubs or salt baths. A good ointment to apply is five per cent. carbolic

ointment, or twenty to fifty per cent. solution of ichthyl or balsam of Peru.

Some girls have trouble with fissures, which appear generally either between the toes or on the heel. The former are due to acid perspiration or to lack of bathing.

When this trouble occurs on the heel, the sides of the crack may be drawn together and held with adhesive plaster. Cold cream, glycerine, or zinc oxide ointment may then be applied.

When fissures occur between the toes, the feet should be carefully washed, and a bit of gauze wet with tincture of myrrh placed between the affected toes. If there is much moisture, a dusting powder may be used.

The feet should be bathed both morning and evening, followed by careful drying. Rubbing is very refreshing to tired feet, while a bath in cologne will brace them wonderfully. This bath, or one of camphorated oil, will also strengthen tender, sensitive feet.

A good bath for tender feet is composed of five quarts of hot water, two hundred grams of boric acid, and five grams of tannin. The feet should be soaked in this bath ten minutes.

Dry them thoroughly, and then rub with cologne water.

If your feet are sore after a long walk or vigorous exercise, massage them with olive oil. They respond to care very quickly. If your feet swell from long standing, dissolve one ounce of alum, two ounces of rock salt, and two ounces of borax in the bath.

For any soreness or reddening of the skin of the foot, zinc ointment is efficacious.

If you cut your foot in attending to the nails, or in paring corns, bathe it at once in an antiseptic solution, such as boracic acid.

You will find powders for the foot in the chapter on Perspiration.

If you suffer from cold feet, you may be sure your circulation is not in good order. Foot and ankle exercises are good for this condition.

Stretch the toes down to the extreme limit, then work the feet up and down vigorously several times. Again, shake them from the ankles as you do the hand from the wrist in devitalising it.

If the feet are cold in bed, these exercises will soon warm them up. Flannel lining may be used in the winter boots, and cold feet may

be wrapped in warm flannel at night. Constant use of the hot-water bag makes the feet sensitive.

If the hot bag be used to warm the feet, it should be removed from the bed when this object has been attained.

A system of arches and piers are formed by the bones of the feet in such a way that the greatest weight can be borne with the least strain.

Queen Wilhelmina's foot is noted for an arch so high that it is a common saying among her subjects that a stream of water can flow under it without touching the foot:

If you wish to know if you have a flat foot, dip it in water and put it down on a piece of paper or board ; if the arch is broken, the print will show the whole bottom of the foot. If the foot is normal, there will be a big hollow at the inner side.

Flat or splay foot is generally caused by weakness, combined with long standing, and especially from the unfortunate habit of turning the foot out.

Walking seldom induces this trouble, as it tends to strengthen the foot. It is often necessary to wear a brace, made of metal or

leather, to support the foot; or shoes made with a stiff side, called the Spanish last, are helpful. The pain from flat foot is often severe, but may be relieved, if you are obliged to stand, by turning the feet inward. In any trouble of this kind, you should consult an orthopedist, as he may save you many months or years of suffering by timely and intelligent attention to this trouble. Any deformity, such as club-foot or hammer-toe, should likewise be referred to an orthopedist.

The more one studies the foot and its extremely delicate mechanism, the more one is impressed with the great injury that is caused by badly-fitting shoes, especially by high and narrow heels, that are set so far under the foot that they come almost in the centre.

To keep the feet from deformities, proper shoes and stockings should be worn. Stockings should be made rights and lefts, with straight inner edges, just as the shoes are, and the digitated stocking aids much in preserving the beauty of the foot. This is made with a separate compartment for the great toe, which keeps it from coming into contact with the other toes. I think that less trouble

comes from wearing cotton stockings at all seasons than from any other material. The weight should vary with the weather. Coloured merino stockings will sometimes make the feet very tender.

Stockings should not be too tight. They should be elastic, and large enough to allow for the expansion of the foot in walking. The foot may become distorted so gradually by gentle pressure that you will be conscious of no pain.

Short stockings are as pernicious as short shoes.

The shoes should fit the feet perfectly ; and if you cannot buy a satisfactory ready-made shoe, you would do far better to forego some other outlay, and have your shoes made to order. There should be no spring or bending upward of the front of the shoe.

As to the heel, it should, as a rule, be moderately low and broad. Shoes, when first worn, should fit, for, if properly made, shoes will not stretch. The shoes should be three-fourths of an inch longer than the foot, for the foot works forward in walking. Short shoes force the toes back, and finally the joints become distorted, and bulge out at the sides

and above, and so corns, bunions, and other disorders are developed.

Careful attention should be paid to the care of the shoes. Trees made on your last will preserve the shape, if used in the shoes when they are not worn. Walking-shoes should not be worn in the house, neither should the same pair be worn on consecutive days, so having no chance to air. Abraham Lincoln used to slip off his shoes when he had the chance, "letting his feet breathe," as he said.

When not in use, the shoes stretched on trees should be placed upright in an airy closet.

If the shoes are cleaned every day, and oiled once a month, they will last much longer. Oil them especially on the soles, and about the stitches where the uppers join the sole. This makes them waterproof for winter. For this purpose, pure neatsfoot or castor oil is good.

The heels should always be kept in good repair. Rubber heels will prevent the jarring that comes otherwise from the contact of the heels with the floor or pavement. Always keep the shoes well polished.

The neat shoe stamps the well-bred girl as

no other part of her dress, unless it be the glove. A careless, slovenly shoe will spoil the effect of the most elaborate gown.

The habitual wearing of high-heeled shoes leads to shortening of the calf muscles, and finally to breaking down of the arch.

Light shoes are doubtless one cause of varicose veins. They may also predispose to chilblains and frost-bite. The Chinese call the poor distorted little feet of their girls "Golden lilies."

Apart from the evil effects of badly-fitting stockings and shoes, the bedclothing sets a strain on the ligaments and bony structures; consequently, in sickness, when the feet are weak and less able to resist distorting influences, cradles should be used to lift the weight of the bedding from the feet.

Rubbers should always be taken off as soon as you enter the house; being impervious to air, they do not allow for the ventilation of the feet.

The shape of the normal foot can be seen in the young infant. The toes are straight, while the great toe stands away slightly from the others. The two feet, when laid together side by side, are in contact throughout their

whole length. This is most exceptional in the case of the adult. The proper shoe should be straight on the inside like the infant's foot. When this contour is compared with the leather case—the modern shoe—into which the foot is squeezed, it is easy to see "why the shoe pinches."

CHAPTER XX

CLOTHING

Proper clothing—Materials—Care of clothing—Combinations—Hose supporters—Corsets—Hygienic Bodices—Colour—Dye—Hygienic hints.

HAVE you ever thought how much more sensible your brothers are in respect to their clothing than you are? Oliver Wendell Holmes says, in his inimitable way: "Woman is under the guidance of a higher law than any relating to her individual safety." He continues: "It is in virtue of this extreme indifference to consequences, this sublime contempt of disease and death, as compared with the loss of the smallest personal advantage—that woman has attained the power of resistance to exposure which so astonishes the male sex. Think of her thin shoes and stockings, her bare or scarcely protected neck and arms, her little rose-leaf bonnet, by the

side of the woollen socks, the layers of flannel and broadcloth, and the warm hats and caps of her effeminate companion! Our cautions are of no use, except to the fragile sex—our brothers in susceptibility and danger."

I know a girl who, for several months, has had a very bad cough, and still night after night I see her sitting in a draught wearing a dress with a "transparent neck." Many girls have lessons to learn in the subject of clothing.

Probably the best all-round material for wearing next the skin is wool. It prevents sudden formation of perspiration, and it absorbs considerable moisture without feeling wet. Evaporation from it takes place slowly ; thus a chill is avoided.

It certainly is the safest material to wear in the winter. It should be light and loose. It is a great protection to the vital organs of the trunk. You all know that in the tropics soldiers are advised to wear woollen abdominal bandages. A great advantage of wool consists in the air it holds in its meshes. This is the principle on which the mesh under-garments are made. Any material, no matter what it is, woven so as to be loose-meshed, will retain

in its interstices a layer of air which is a great protector.

In the summer, although a very thin weight of wool can generally be worn with comfort, and certainly with advantage in our changeable climate, cotton, linen, and silk all have their places. Linen is generally the favourite in temperate climates. Cotton is warmer than linen. Silk stands next to cotton for warmth.

When material is porous, it allows emanations from the skin to pass out through it. Wool readily absorbs odours. This should be remembered, and the greatest care should be taken, therefore, to keep it sweet and clean.

Clothing worn next the skin should be frequently washed in order to remove the fatty and saline matters which are thrown off by the skin, as well as any microbes which may be there. Clothing should be well aired, for damp clothes afford an excellent soil for microbes, and are favourable to certain skin diseases. Never wear at night what you wear in the daytime. Take off each article, shake it well, and hang it over a chair by itself so that it can air for hours.

The combination is the hygienic shape for the first garment. Two of its advantages are

the even distribution of weight, and the lack of awkward fulness at the waist.

I am not advocating any system of clothing, but it is well for you to study the question intelligently for yourselves, and to arrange your manner of dress so that you will wear as few heavy clothes as possible. In the winter, riding tights will give you warmth, and you can dispense with all but one skirt.

Your skirt should be so hung that you will not feel its weight. It may be fastened to the corset for this purpose.

A very bad habit that many girls now have is that of pressing the waist-line down. This may look "stylish" to you, but it certainly is not good for your internal organs.

If you wear stocking-suspenders, they should not be fastened to a waistband, but they must be so adjusted as neither to draw down the shoulders nor press on the abdominal wall.

Concerning corsets, you have probably heard discussion as far back as you can remember. Personally, I do not approve of them, though they are said to have certain advantages. Great improvements in these garments have been made in recent years.

Any one of the various hygienic bodices now on the market, I think, is well substituted for the corset. However, take care if you wear these bodices to bend over only at the hips. You must cultivate "Nature's corsets"—that is, the abdominal muscles. Strengthen all the muscles of the trunk—especially about the waist. If you had seen, as I have, deep grooves in the liver of a woman who had worn tight corsets for years, you would learn not to "break in two" when you don't wear them. The ordinary corset acts to your body as a splint acts to a broken arm. The capacity of your lungs is lessened. The action of your heart is impaired.

Examinations made by a master of physical culture give the average lung capacity as 134 cubic inches with corsets; as 167 cubic inches without corset. Shortness of breath and palpitation of the heart are often due to the use of corsets; so are many diseases, such as dyspepsia, nervous troubles, neuralgia, displacements of important organs, and lung and heart diseases.

The corset exerts pressure, not only upon the chest, but upon the stomach and abdomen. Circulation is impeded by it, and thus there

is an accumulation of carbonic acid and a retention of waste matter in the blood. Such a condition acts directly on the nervous system. One reason why women faint more easily than men is because of restriction of the chest by corsets.

If you feel that, on account of the weight of your bust, you are not able to do without this garment, use one of the many bust supporters with a hygienic bodice, and you will find the difficulty obviated.

Stockings and shoes have been discussed under "Care of the Foot."

I cannot say too much against the use of the round garter. It is productive of much harm. It greatly impedes the circulation, and often causes varicose veins.

Dark colours are warmer than light colours. This accounts, as a rule, for dark clothes being worn in the winter and light clothes in the summer.

Care should be taken with regard to dye in clothing — especially in stockings, for as a rule, other clothes that come next the skin are undyed. Dye in stockings may cause extreme annoyance.

Those of you who are fond of art, and have

made a study of symmetry, know well the distortions caused by many of our articles of modern dress. The beautiful figure is the figure Nature gave us.

The reason the Japanese girl is such a wonderful athlete is because her body has been unhampered for generations. She can wrestle easily with her brother at any time.

Clothes should never be tight in any part. Tight, high collars and stiff collars are responsible for many ugly necks.

Conspicuous clothing is never in good taste. Avoid the combination of many colours.

In the street wear skirts that do not drag.

Do not wear hats that are a burden to body and mind.

When you are well and comfortably dressed, you have a feeling of poise, which helps you to forget yourself. You can then give your best attention to the work that lies before you.

CHAPTER XXI

DIGESTION AND DIET

Mastication—Dyspepsia—Chocolate eating—“Punch-bowl” episode—Cooking—Various articles of food—Water drinking.

NOTHING conduces more to health and long life than abstinence and plain food, with due labour. When exercise is lacking—as in studious persons—there is greater need of abstinence. As to the amount of food, Nature requires no mathematical exactness. A plain rule for judging of the quantity is, not to eat so much as indisposes for business.¹

The digestive system plays as important a part in longevity as do the respiratory and circulatory systems. Only general rules, however, can be laid down, for each girl is a law to herself—within certain limits. Meals

¹ “Essay on Health and Long Life,” by George Cheyne.

should be, if possible, taken at the same hour each day, and plenty of time should be given to them. It is very bad for the digestion to have the nervous system called off to attend to other matters.

Mastication should be thorough. This last will touch many of us closely ; "bolting" is becoming such a confirmed habit, especially with those who are busy, that we do not realise in what condition we push the food down. It is really almost as if we took it from the table and laid it in the stomach. We cannot keep this up long without feeling ill effects. Even soft foods, such as potatoes and bread, should be carefully masticated, for the starches are partly digested by the saliva. I remember hearing an old physician say : "It is not so much what you eat as how you eat it."

Another habit almost equally pernicious is that of washing the food down with large quantities of liquid.

Bad digestion or "dyspepsia" and unhealthy skins are closely associated. Girls who are suffering from these ills, in beginning their reform, must avoid fried foods, pork, and sausages, new bread, hot rolls — in fact,

everything doughy ; rich salads, made dishes, pickles, many spices, all heavy sweet things, most desserts, pastries, rich cakes, cheese, and much tea or coffee.

Most girls are interested in the effects of sweetmeat eating. An authority on dietetics says that a quarter of a pound of cane sugar is all that is allowable in twenty-four hours. When you subtract the amount of sugar that you daily consume in ordinary foods, very little is left to be taken as sweets. When eaten at all, they are best taken directly after a meal.

Taken between meals they disturb the digestion and spoil the appetite. The chief objection to the use of sugar is the acid fermentation it causes in the stomach. When taken in excess by young girls, it is apt to cause pimples.

The advice given to a "dyspeptic" by one of the most eminent medical men of our day is : "You can really eat almost anything without injury, if you will remember to eat only one or two things at a meal."

And that reminds me of a charming illustration of a modern dinner, called "A Punch-bowl Episode,"¹ which I have recently read.

¹ Pratt's "The Body Beautiful."

A wealthy clubman consulted his physician for what he feared was heart trouble. Mr. L. was positive that his digestion was in excellent condition ; he had never, until very recently, suffered the least discomfort from eating.

As soon as the doctor had convinced himself of the nature of the trouble, he told his patient that he hoped for the pleasure of his company at dinner that night at seven. At the hour appointed the guest arrived, and as he and the doctor were chatting together in the library, his attention was attracted by a punch-bowl of large dimensions. It was beautifully chased and of antique pattern. As he spoke of its exquisite design, the butler appeared with a cocktail. He walked over to the table and poured the concoction into the punch-bowl.

Retiring, he soon returned with half-a-dozen oysters, some horse-radish, biscuits, celery, radishes, olives, and salted almonds, which also went into the bowl. A glass of wine was added to this mixture. Mr. L. was a little surprised, as he had never seen a proceeding like this before, but he kept chatting with the doctor, who seemed to take no notice of the performance of his servant.

A tomato bisque, cheese biscuits, celery, salted almonds, and sherry next went into the bowl. By this time Mr. L. was waiting with great curiosity to see what would next appear. It was broiled fish, potato balls, cucumber, and hock. Then came roast chicken, French peas, olives, chipped potatoes, currant jelly, bread, and champagne, all going, one after another, into the punch-bowl.

These were followed by lobster salad, bread, salted almonds, and claret. The last contributions to the long-suffering bowl were ice-pudding, cake, bonbons, wine, grapes, cheese, nuts, coffee, and crème de menthe. And never a word from the doctor.

Mr. L. by this time felt uncomfortable. As the butler closed the door after his last appearance, the doctor led his guest over to the bowl, and asked him to imagine the condition of its contents an hour later.

It needed little comment from the wise physician to convince Mr. L. how terribly he had been abusing his digestion for many, many years, for this combination of foods had been an almost daily offering to his stomach.

The two men then went to the dining

room, and while they were eating a simple dinner, the doctor gave his guest a common-sense talk on the proper way of living.

He gave him a list of wholesome, nutritious foods ; he told him to drink copiously of water between meals ; gave him directions concerning exercises and deep breathing ; begged him to sleep eight hours out of twenty-four, and to take a cold bath every morning.

Mr. L. was much impressed, and went away with the determination to follow the doctor's advice. In a short time, all suggestion of his so-called "heart failure" had disappeared.

Food must be properly cooked in order to be digestible. Cereals are apt to be served in a partly cooked condition. Many of them require several hours' steaming.

Milk is one of the most important foods, but it is not of itself a sufficient diet for a healthy girl.

The active worker can digest food that the girl of sedentary habits cannot. Meat once a day is sufficient for most people. Too much red meat from day to day means uric acid. The best vegetable substitutes for meat are peas, beans, and lentils.

Fruits are valuable for certain vegetable acids which they contain, but they are not very nutritious.

Bananas are easily digested, if before being eaten they are both peeled and scraped. This disposes of the indigestible part of this nutritious fruit. Variety of diet is of the greatest advantage.

Alcohol is not necessary for healthy persons, and most people would be better without it in any form.

As to tea, coffee, and cocoa, there has been endless discussion. Although I believe that tea and coffee are far better dispensed with, tea, when taken *fresh*, in moderate quantity and strength, is not injurious to most persons. It is refreshing when one is weary. Some who cannot take tea can drink coffee.

Coffee is in no way a food, but when it is taken at a meal less food is necessary, because it diminishes tissue waste. It has a clogging action, however. It hinders digestion, and should be avoided by those with weak stomachs. Too much coffee has a decidedly bad effect upon the complexion.

Cocoa and chocolate are far more valuable articles of food than tea and coffee. In

fatiguing climbs or other exertion they are very sustaining.

With all the care that you may pay to the food you eat, remember that this is not the only element in digestion. The rules given at the beginning of this chapter must be observed ; to get the best effect, you must be cheerful when you eat. Worry, or over-work, irregularity, and hurry all militate against good digestion. Enjoy your food when you take it, for this is one of the legitimate pleasures of life.

In the chapter for the thin girl, you will find a diet that is of general excellence for most girls who have not a tendency to become over-plump. One great fault in diet nowadays is that we eat too much animal food. Such food is distinctly stimulating, and in some cases is injurious.

No matter what you may say about diet, you may be certain there will be somebody to contradict your statement. I know of no other subject on which such a variety of views are held.

Especially is this true about the drinking of water at meals. It is often objected that it dilutes the gastric juice and so hinders

digestion. In a healthy stomach it takes but a short time for the excess of fluid to be absorbed.

If the stomach is weak, however, this will not be the case. The greatest disadvantage, I think, in drinking at meals is that in this way the food is apt to be washed down before it is masticated.

CHAPTER XXII

RELAXATION AND SLEEP

Mid-day rest—Change of work—The nervous system
—Sleep — Ventilation — Bedding — Insomnia,
remedies for, consequences of — How to meet
shock.

A GIRL wrote to me the other day that she had both the time and the opportunity for half-an-hour's rest at noon after her luncheon, and that she generally took advantage of both by throwing herself into an easy-chair, and taking a nap for ten or fifteen minutes. Someone had told her it was not hygienic, and she was in dread lest she should develop indigestion.

Although digestion is slower during sleep, a few minutes' rest after a meal is beneficial.

Just a word more about rest in the middle of the day. If you have been sitting all the morning, take a walk in the open air. If you

have been standing, recline for a few minutes if you can. If you have been working hard with your hands, read for a few minutes. If you have been using your brains, go for a little walk, or to your punching - bag. Do something to stir up your sluggishness. All these, of course, before, not after, lunch.

You remember the little suggestion about resting the eyes, by looking up from your work and into distance every half - hour or hour during the day. Relax your mind in the same way. Stop thinking of your work now and then, and call up the memory of some beautiful sunset you have seen. You have no idea how this will rest you, and relieve the nervous tension.

Stand in front of your mirror, and relax your eyes, your mouth, and your fingers.

Pain gives us warning of trouble in the body. So do restlessness, depression, and irritability give us warning of trouble with the nerves and mind.

The nervous system needs changes. Monotony and over-attention are both important elements of fatigue. If you are able to do so, take one afternoon in the middle of every week for recreation. Or take a week - end

holiday. Take an hour in the middle of every day. Take a minute out of every hour to think of your horizon and your sunset.

Change of work is often as much recreation as play. Take up some work that you really like. There is nothing like having a hobby in life that interests you. It may be a scrap-book, a pet, or a bit of garden. Interest in something outside your regular work will soothe and rest your nerves like magic. Specific exercises for relaxation have been given throughout the book.

It is said, and I believe with truth, that no skilled workman can do his best work for more than eight hours a day for six days out of the seven.

Have you ever watched a skilled pianist or a drum-beater? You have noticed the many flourishes of the hands that are made in the midst of the playing. This is not affectation, nor is it useless. It rests and relaxes the hands in the midst of work, and makes them all the more ready to proceed. A recent writer on this subject puts it concisely when he says that the great principle of rest lies in "concentration and expansion," muscular contraction and relaxation.

In the matter of sleep, you must be your own judge as to the amount necessary. The general opinion, and I believe the right one, is that an adult requires eight hours of sleep out of the twenty-four.¹

In most cases, especially if you are regularly employed every day, nine hours will be better. Take eight at night, and one in the middle of the afternoon—if you can. If you are not able to arrange it so, then take nine at night, and plan as much rest as possible sometime after your luncheon.

You know that the heart is enabled to go on with its life-work because it alternates effort with tiny intervals of rest. This should teach us a valuable lesson. No matter what our work is, it is seldom that we cannot manage to secure some rest and relaxation during the day. Ten minutes on your back with your eyes shut and your mouth and your hands relaxed — all the muscles connected with them—will rest you wonderfully. Do

¹ Talmage says : “Because Napoleon only slept three hours a night, hundreds of students have tried the experiment ; but instead of Austerlitz and Saragossa, there came of it only a sick headache and a botch of a recitation.”

not work up to the minute of going to bed, but change the current of your thoughts, and relax the tension for at least a few minutes before you seek your night's rest.

Keep the air of your bedroom pure. Remember that you spend one-third of your life there. The skin is very active during the night and throws off much waste matter. This, as well as the air breathed from the lungs, makes the necessity of changing the air from time to time very urgent.

In sleep less carbonic acid is given off and more oxygen is taken in than during the day. More vapour and waste products are given out through the skin than through the lungs.

Never cover your head with the bedclothes. Covers should be light but warm.

The temperature of the sleeping-room should not be too cold. From 55° to 60° Fahrenheit is about the right temperature.

Do not fill your bedroom with draperies and knicknacks, but have it as plain, cleanly, and dust-free as possible.

The bed and bedding should be exposed to the sun every day—feather pillows excepted, as the sun is said to draw the oil out from the

feathers. They should be exposed to a current of air, however.

Two light blankets are warmer than one heavy one, on account of the layer of air that is between them.

Bed-clothing should be thoroughly dried and aired. Special precautions should be taken in travelling, and if you find the sheets damp and cold, it is much better to slip them down and lie between the blankets. Many a severe cold, with its consequences, would thus be avoided.

Banish the feather bed, and sleep on a fairly hard mattress. Never let the light of the moon or the sun shine directly on your face. Never wear any garment at night that you have worn in the day-time. Air the day clothes at night, and the night clothes during the day.

It is well not to lie in the same position all night. Turn at least once from one side to the other. The right side is considered the preferable one. It is not well to lie on the back very long at a time.

Do not doze all the evening, but if you are tired and sleepy give up to it and go to bed. If you find that you are tired on awakening every morning, it is a warning by Nature that

all is not well. You can generally discover the cause if you seek it.

It is not wise to go to sleep with a sensation of hunger. You can take any light, simple food you wish—something that you like and that agrees with you—this is your problem to decide. You will do well to let tea and coffee alone. Never lay plans at night for the next day's work. Sleep in the country when you can. Getting accustomed to city noises uses up stores of nervous energy.

Insomnia is often due to cold feet. Never go to bed until your feet are warm. Take some exercise to stir up the circulation in them, such as has been given before. Standing on tip-toes is good. You can get them warm by a warm foot-bath or by vigorous rubbing.

Massage is very soothing to many girls, and will do more than anything else they can try to produce sound sleep.

A warm bath is often soothing just before going to bed. People vary, however, in this respect, as well as in regard to exercise just before bed-time. Some it prepares for sleep, while others are disturbed by it.

If you are troubled with sleeplessness, you should not work more than from four to six

hours out of every twenty-four, and you should do this work in the early part of the day.

If you are very seriously troubled with insomnia, and are not able to overcome it, the best thing you can do is to take a little trip, and look at other scenes, and talk with other people for a few days. It will change the current of your life, and you will come home refreshed.

A natural consequence of insomnia is increased sensitiveness. Sensitiveness is a form of nervous tension. Get rid of yourself. Go to Nature, your eyes need the broad expanse of the horizon, the yellow of the sand, the blue of the skies and sea, the green of the grass and leaves, the purple of the hills.

When you have to hurry, hurry with your muscles—not with your nerves.

What good does it do to hurry? What are we hurrying for? "While we live, we die," and hurry does not prepare for death.

If you have contracted the habit, you can unlearn it only by persistent effort. You must exercise your will-power to stop it.

We should do well to imitate the Oriental calm. The story is told of the Shah of Persia that he was asked to join a party of nobles at

the Derby. He replied: "It is already known to me that one horse can run faster than another, and wherefore should I go to the Derby?" He then returned to his prayers.

When you find that you are becoming nervous, stop and take a few deep breaths—this is a wonderful way to relax tension.

Learn to meet a shock by fixing your attention on some trivial object, such as a dog or hen outside. This will break the force of a shock and relieve tension.

Suppose, for instance, you receive a telegram. Before you open it, go to the window and look intently at some object. This advice is given by a physician who has had much experience in treating nervous patients.

Don't sew or embroider when you are very tired. Such work calls for too much energy. Lie down in a dark, quiet room, and arrange to have no interruptions for a short time.

When you have the opportunity, relax and rest; don't fret. When you have done all you can to attain the end you are striving for, await developments.

"Happy is the patient camel, happy is the humble saint; they kneel when the day is done, and their burden is lifted from them."

CHAPTER XXIII

CHEERFULNESS

“The blues”—“Biliousness”—“Blue Monday”—
Cheerfulness and habit—Sense of humour—
Effect of emotions on digestion—Fretfulness—
“Curve of health.”

How to get rid of “The Blues”

IT is a common thing to hear a girl say: “Oh, dear! I am so ‘blue’ to-day. I don’t know what is the matter with me. Nothing special seems to have gone wrong.” Now, in such a case, something very special has gone wrong—and very wrong at that.

This condition can almost invariably be traced to some physical derangement. It is often due to sluggishness, either of the whole body or of some particular organ. We generally think of the liver at such times—and with much reason, for when this great gland

is not in good working order it will upset the whole system.

The girl who is "biliary" is apt to be a frequent victim of "the blues." And what must she do to throw off this depression? Good exercise in the open air will do much to mend matters. Practise deep breathing in your daily walks. It will soon become a habit.

An orange eaten before breakfast, together with a glass of cool water, is excellent for this trouble. Other causes of depression are anaemia and chlorosis—conditions often met with in growing girls. Such girls need abundance of sunshine and sleep, as well as plenty of nourishing food. Milk is useful in these troubles.

Remember, however, that anaemia is a much-abused word. It is a mistake to think that all pale girls are anaemic. This term can be applied with accuracy only after a scientific examination of the blood has been made.

Still other fertile causes of "the blues" are overwork and loss of sleep. The remedy for both of these ills is apparent. Do not over-tax your strength, and do not worry! Quiet

brain work without brain worry can be carried on for a long time. But when interruptions occur, and the mind is distracted by worry, the strain begins to tell. Look on sleep, not only as a necessity, but also as a duty.

As there is a reason for all things, so there is one for "Blue Monday." Many girls do too much on Sunday. Especially those girls who work hard all the week should spend a quiet, restful Sunday. Never sit up late on Sunday night if you can possibly help it, for it will start you wrong for the rest of the week.

If you don't feel cheerful, stand in front of your mirror and *look* so, at least. *Smile*, and your mood will involuntarily change. Frowning uses up valuable energy.

Cheerfulness is a good habit, just as worry is a bad habit. You can cultivate one just as easily as you can cultivate the other.

When you can laugh at an unpleasant experience the sting has gone from it. Cultivate the habit of looking at the bright side of things.

I was reading the other day of an interview of a girl with her physician. She was

telling him, in a tragic manner, of a nervous paroxysm she had had. She had rushed to her room, banged the door, and then jumped up and down, shrieking wildly.

The doctor's eyes twinkled as he said to her: "My dear girl, what a pity that you don't possess a keener sense of humour. It is a wonderful help in this daily life of ours. If you had trained yourself to see the ludicrous side of things, by the time you had jumped your second jump, you would have been so amused at the contortions you were going through, that your nervousness would have passed away as suddenly as it came; for the hearty laugh that you would have had at your own ridiculous appearance would have broken the nervous tension, and would have brought you relief from your overwrought condition."

The author of "Crankisms" says: "Laugh, and the world laughs with you; weep, and the world laughs at you." A hearty laugh acts like magic. Its vibrations seem to force new life into the springs of our being.

It is an accepted fact that cheerfulness and pleasurable emotions have a happy influence on the process of digestion. The old custom

of exciting laughter at table by jesters was founded on a true physiological basis.

On the contrary, worry, anxiety, fright, or excitement of various kinds, have a depressing effect on digestion, not only in the stomach, but also in the intestines. There seems to be disturbance both of the circulatory and nervous systems. Nervous dyspepsia and loss of weight often follow prolonged anxiety.

As a wise man says: "If you have not slept, or if you have slept, or if you have headache, or sciatica, or leprosy, or thunder-stroke, I beseech you, by all angels, to hold your peace, and not pollute the morning, to which all the housemates bring serene and pleasant thoughts, by corruption and groans."

I once knew a woman who, on every bright Monday morning, worried for fear that the *next* Monday morning would be stormy, and that the laundress would be obliged to dry the clothes in the attic!

You may feel that this is an exaggeration. I am sorry to say it is not. It is an actual fact. It is, I hope, an extreme case, but it shows you what you yourself may reach if you do not curb that wretched habit of worrying while you are young.

Worry is "Inability to withdraw attention from unpleasantness." Worry is a vice. You can overcome it if you will. Things that trouble you at night will not trouble you after eight hours' refreshing sleep. Distract your attention from unpleasant thoughts.

I recently read of "Mr. Anstey's ingenious clock." When his experiences were agreeable, he paid in to this imaginary clock cheques which represented bright and cheerful half-hours. When seasons of depression arrived he would call out from his store of cheerfulness pleasant half-hours, and thus he helped himself over the hard places in life.

Someone has suggested that the ups and downs in our physical life are represented by the "curve of health." This author says that "it is a mistake to suppose that the normal state of health is represented by a straight line." We are bound to have our ups and downs in our physical as well as in our mental lives. It is said that people who are cheerful are generally long-lived.

Learn to control the expression of your face. Let it mean something. Let it be intelligent. Learn to guard against meaningless smiles and expressions. I once knew a girl whose face in

repose was beautiful, but she had contracted the habit of assuming a smile which was so laboured that it was more of a grimace and contortion than anything else.

It spoiled her beauty, and now as I still know her, those same lines of habit are furrowed into her face.

When you smile, mean it. Let it come from within, and do not assume it with the mistaken idea of looking amiable. A genuine smile is a wonderful thing, and changes a whole countenance. But have you ever seen your face in a mirror with a smile which you had in a spell of absent-mindedness forgotten, till you suddenly caught sight of its poor, vapid remnants? How inane it looks!

Another habit so easy to form and so hard to break is that of frowning, or scowling. I passed a girl in the street this afternoon, and her face was absolutely screwed into a knot. Knots may be unravelled with patience, but it is not always easy to smooth out the wrinkles caused by such bad habits as these.

Cultivate repose of the muscles of the face as well as of other parts of the body. It is not vanity to study expressions, and the results are often a relief to our friends. Observation

of others teaches us quite as often what to avoid as what to cultivate.

Nothing so quickly affects the beauty of the face as one's thoughts ; so guard your thoughts, since they are the die which stamps your countenance.

Walk in the sunshine, and its light will be reflected in your faces.

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